

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	76	(virtual with heap) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 12:04
S2	22	(virtual with heap) and transaction and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/06/24 10:01
S3	0	((virtual with heap) same transaction) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/06 20:53
S4	4	(virtual with heap) and (transaction same state) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/08 16:55
S5	1	(heap same transaction same (rollback\$3 or (roll\$3 adj back))) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/07 21:39
S6	8	(heap same (access\$3 near2 state)) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/07 23:04
S7	57	(heap and (access\$3 near2 state)) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/07 23:04
S8	909	((virtual or persistent) with (heap or stack)) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/07 23:55
S9	850	(virtual with (heap or stack)) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/07 23:55
S10	130	(transaction same (access\$3 near2 state)) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/08 16:57
S11	12	(transaction same ((chang\$3 or updat\$3) with (access\$3 near2 state))) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/08 18:19
S12	32	java and (virtual with heap) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/08 19:55
S13	5	java and (virtual with heap) and (mobile or pda) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/01/08 19:55
S14	53	(virtual with machine) and (virtual with heap) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/06/24 09:00
S15	7	(virtual with persistent with (heap or stack)) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/06/24 09:07

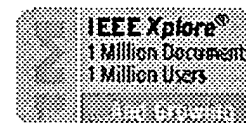
S16	397	(virtual with machine) and (virtual with (heap or stack)) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/06/24 09:08
S17	111	(virtual with machine) and (virtual with (heap or stack)) and transaction and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/06/24 09:25
S18	71	((virtual with machine) same (virtual with (heap or stack))) and transaction and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/06/24 09:25
S19	7	(virtual with machine) and (virtual with (heap or stack)) and (transaction same ((roll\$3 adj back) or rollback or (restor\$3 with state))) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/06/24 09:45
S20	2	"6694346".pn. or "5682535".pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/07/08 16:52
S21	1	("6694346".pn. or "5682535".pn.) and java	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/07/08 16:53
S22	0	("6694346".pn. or "5682535".pn.) and mobile	US-PGPUB; USPAT; IBM_TDB	OR	ON	2004/07/08 16:53
S23	18	(heap same cach\$3 same virtual) and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 16:14
S24	4	"20040168030" or "6789122".pn. or "6760815".pn. or "6763440".pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 13:31
S25	2	("6421739".pn. or "6401216".pn. or "5088036".pn. or "4843541".pn.) and (cach\$3 or page)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 14:02
S26	5	"6421739".pn. or "6401216".pn. or "5088036".pn. or "4843541".pn. or "5778443".pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 14:47

S27	139	"5455952".pn. or "5386568".pn. or "5423042".pn. or "5481721". pn. or "5557798".pn. or "5944793".pn. or "5946694".pn. or "4491946".pn. or "4713806". pn. or "4809160".pn. or "4939638".pn. or "5088036".pn. or "4823122".pn. or "4956773". pn. or "5109486".pn. or "5187787".pn. or "5218699".pn. or "5257369".pn. or "5293614". pn. or "5297283".pn. or "5307490".pn. or "5311591".pn. or "5339435".pn. or "5390328". pn. or "5440744".pn. or "5448740".pn. or "5452459".pn. or "5471629".pn. or "5475792". pn. or "5475817".pn. or "5504921".pn. or "5511197".pn. or "5524244".pn. or "5553282". pn. or "5555427".pn. or "5560003".pn. or "5561785".pn. or "5577231".pn. or "5594921". pn. or "5603031".pn. or "5680573".pn. or "5680617".pn. or "5684955".pn. or "5689709". pn. or "5706435".pn. or "5706502".pn. or "5724588".pn. or "5727145".pn. or "5617537". pn. or "5628005".pn. or "5640564".pn. or "5644768".pn. or "5652888".pn. or "5655148". pn. or "5659751".pn. or "5671225".pn. or "5675796".pn. or "5737607".pn. or "5745678". pn. or "5745695".pn. or "5745703".pn. or "5745755".pn. or "5748897".pn. or "5754849". pn. or "5757925".pn. or "5761656".pn. or "5764897".pn. or "5768532".pn. or "5774551". pn. or "5778228".pn. or "5778368".pn. or "5787425".pn. or "5787431".pn. or "5790548". pn. or "5802367".pn. or "5808911".pn. or "5809507".pn. or "5813013".pn. or "5815149". pn. or "5815709".pn. or "5815711".pn. or "5818448".pn. or "5829022".pn. or "5832219". pn. or "5832529".pn. or "5832593".pn. or "5835737".pn. or "5842018".pn. or "5844553". pn. or "5845129".pn. or "5860004".pn. or "5860153".pn. or "5864862".pn. or "5864866". pn. or "5872928".pn. or "5875643".pn. or "5875335".pn. or "5878411".pn. or "5884024". pn. or "5884070".pn. or	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 15:13
Search History 1/13/05 7:46:09 PM Page 3 C:\APPS\EAST\Workspaces\09567076.wsp						

S28	10	( "5455952".pn. or "5386568".pn. or "5423042".pn. or "5481721". pn. or "5557798".pn. or "5944793".pn. or "5946694".pn. or "4491946".pn. or "4713806". pn. or "4809160".pn. or "4939638".pn. or "5088036".pn. or "4823122".pn. or "4956773". pn. or "5109486".pn. or "5187787".pn. or "5218699".pn. or "5257369".pn. or "5293614". pn. or "5297283".pn. or "5307490".pn. or "5311591".pn. or "5339435".pn. or "5390328". pn. or "5440744".pn. or "5448740".pn. or "5452459".pn. or "5471629".pn. or "5475792". pn. or "5475817".pn. or "5504921".pn. or "5511197".pn. or "5524244".pn. or "5553282". pn. or "5555427".pn. or "5560003".pn. or "5561785".pn. or "5577231".pn. or "5594921". pn. or "5603031".pn. or "5680573".pn. or "5680617".pn. or "5684955".pn. or "5689709". pn. or "5706435".pn. or "5706502".pn. or "5724588".pn. or "5727145".pn. or "5617537". pn. or "5628005".pn. or "5640564".pn. or "5644768".pn. or "5652888".pn. or "5655148". pn. or "5659751".pn. or "5671225".pn. or "5675796".pn. or "5737607".pn. or "5745678". pn. or "5745695".pn. or "5745703".pn. or "5745755".pn. or "5748897".pn. or "5754849". pn. or "5757925".pn. or "5761656".pn. or "5764897".pn. or "5768532".pn. or "5774551". pn. or "5778228".pn. or "5778368".pn. or "5787425".pn. or "5787431".pn. or "5790548". pn. or "5802367".pn. or "5808911".pn. or "5809507".pn. or "5813013".pn. or "5815149". pn. or "5815709".pn. or "5815711".pn. or "5818448".pn. or "5829022".pn. or "5832219". pn. or "5832529".pn. or "5832593".pn. or "5835737".pn. or "5842018".pn. or "5844553". pn. or "5845129".pn. or "5860004".pn. or "5860153".pn. or "5864862".pn. or "5864866". pn. or "5872928".pn. or "5872973".pn. or "5875335".pn. or "5878411".pn. or "5884024". pn. or "5884079".pn. or "5884124".pn. or "5884179".pn. or "5884234".pn. or "5884289".pn. or "5884344".pn. or "5884399".pn. or "5884454".pn. or "5884509".pn. or "5884564".pn. or "5884619".pn. or "5884674".pn. or "5884729".pn. or "5884784".pn. or "5884839".pn. or "5884894".pn. or "5884949".pn. or "5885004".pn. or "5885059".pn. or "5885114".pn. or "5885169".pn. or "5885224".pn. or "5885279".pn. or "5885334".pn. or "5885389".pn. or "5885444".pn. or "5885499".pn. or "5885554".pn. or "5885609".pn. or "5885664".pn. or "5885719".pn. or "5885774".pn. or "5885829".pn. or "5885884".pn. or "5885939".pn. or "5885994".pn. or "5886049".pn. or "5886104".pn. or "5886159".pn. or "5886214".pn. or "5886269".pn. or "5886319".pn. or "5886374".pn. or "5886429".pn. or "5886484".pn. or "5886539".pn. or "5886594".pn. or "5886649".pn. or "5886704".pn. or "5886759".pn. or "5886814".pn. or "5886869".pn. or "5886924".pn. or "5886979".pn. or "5887034".pn. or "5887089".pn. or "5887144".pn. or "5887199".pn. or "5887254".pn. or "5887309".pn. or "5887364".pn. or "5887419".pn. or "5887474".pn. or "5887529".pn. or "5887584".pn. or "5887639".pn. or "5887694".pn. or "5887749".pn. or "5887804".pn. or "5887859".pn. or "5887914".pn. or "5887969".pn. or "5888024".pn. or "5888079".pn. or "5888129".pn. or "5888184".pn. or "5888239".pn. or "5888289".pn. or "5888344".pn. or "5888399".pn. or "5888454".pn. or "5888509".pn. or "5888564".pn. or "5888619".pn. or "5888674".pn. or "5888729".pn. or "5888784".pn. or "5888839".pn. or "5888894".pn. or "5888949".pn. or "5889004".pn. or "5889059".pn. or "5889114".pn. or "5889169".pn. or "5889224".pn. or "5889279".pn. or "5889334".pn. or "5889389".pn. or "5889444".pn. or "5889499".pn. or "5889554".pn. or "5889609".pn. or "5889664".pn. or "5889719".pn. or "5889774".pn. or "5889829".pn. or "5889884".pn. or "5889939".pn. or "5890000".pn. or "5890055".pn. or "5890110".pn. or "5890165".pn. or "5890220".pn. or "5890275".pn. or "5890330".pn. or "5890385".pn. or "5890440".pn. or "5890495".pn. or "5890550".pn. or "5890605".pn. or "5890660".pn. or "5890715".pn. or "5890770".pn. or "5890825".pn. or "5890880".pn. or "5890935".pn. or "5890990".pn. or "5891045".pn. or "5891100".pn. or "5891155".pn. or "5891210".pn. or "5891265".pn. or "5891320".pn. or "5891375".pn. or "5891430".pn. or "5891485".pn. or "5891540".pn. or "5891595".pn. or "5891650".pn. or "5891705".pn. or "5891760".pn. or "5891815".pn. or "5891870".pn. or "5891925".pn. or "5891980".pn. or "5892035".pn. or "5892090".pn. or "5892145".pn. or "5892200".pn. or "5892255".pn. or "5892310".pn. or "5892365".pn. or "5892420".pn. or "5892475".pn. or "5892530".pn. or "5892585".pn. or "5892640".pn. or "5892695".pn. or "5892750".pn. or "5892805".pn. or "5892860".pn. or "5892915".pn. or "5892970".pn. or "5893025".pn. or "5893080".pn. or "5893135".pn. or "5893190".pn. or "5893245".pn. or "5893300".pn. or "5893355".pn. or "5893410".pn. or "5893465".pn. or "5893520".pn. or "5893575".pn. or "5893630".pn. or "5893685".pn. or "5893740".pn. or "5893795".pn. or "5893850".pn. or "5893905".pn. or "5893960".pn. or "5894015".pn. or "5894070".pn. or "5894125".pn. or "5894180".pn. or "5894235".pn. or "5894290".pn. or "5894345".pn. or "5894400".pn. or "5894455".pn. or "5894510".pn. or "5894565".pn. or "5894620".pn. or "5894675".pn. or "5894730".pn. or "5894785".pn. or "5894840".pn. or "5894895".pn. or "5894950".pn. or "5895005".pn. or "5895060".pn. or "5895115".pn. or "5895170".pn. or "5895225".pn. or "5895280".pn. or "5895335".pn. or "5895390".pn. or "5895445".pn. or "5895500".pn. or "5895555".pn. or "5895610".pn. or "5895665".pn. or "5895720".pn. or "5895775".pn. or "5895830".pn. or "5895885".pn. or "5895940".pn. or "5895995".pn. or "5896050".pn. or "5896105".pn. or "5896160".pn. or "5896215".pn. or "5896270".pn. or "5896325".pn. or "5896380".pn. or "5896435".pn. or "5896490".pn. or "5896545".pn. or "5896600".pn. or "5896655".pn. or "5896710".pn. or "5896765".pn. or "5896820".pn. or "5896875".pn. or "5896930".pn. or "5896985".pn. or "5897040".pn. or "5897095".pn. or "5897150".pn. or "5897205".pn. or "5897260".pn. or "5897315".pn. or "5897370".pn. or "5897425".pn. or "5897480".pn. or "5897535".pn. or "5897590".pn. or "5897645".pn. or "5897700".pn. or "5897755".pn. or "5897810".pn. or "5897865".pn. or "5897920".pn. or "5897975".pn. or "5898030".pn. or "5898085".pn. or "5898140".pn. or "5898195".pn. or "5898250".pn. or "5898305".pn. or "5898360".pn. or "5898415".pn. or "5898470".pn. or "5898525".pn. or "5898580".pn. or "5898635".pn. or "5898690".pn. or "5898745".pn. or "5898800".pn. or "5898855".pn. or "5898910".pn. or "5898965".pn. or "5899020".pn. or "5899075".pn. or "5899130".pn. or "5899185".pn. or "5899240".pn. or "5899295".pn. or "5899350".pn. or "5899405".pn. or "5899460".pn. or "5899515".pn. or "5899570".pn. or "5899625".pn. or "5899680".pn. or "5899735".pn. or "5899790".pn. or "5899845".pn. or "5899900".pn. or "5899955".pn. or "5900010".pn. or "5900065".pn. or "5900120".pn. or "5900175".pn. or "5900230".pn. or "5900285".pn. or "5900340".pn. or "5900395".pn. or "5900450".pn. or "5900505".pn. or "5900560".pn. or "5900615".pn. or "5900670".pn. or "5900725".pn. or "5900780".pn. or "5900835".pn. or "5900890".pn. or "5900945".pn. or "5901000".pn. or "5901055".pn. or "5901110".pn. or "5901165".pn. or "5901220".pn. or "5901275".pn. or "5901330".pn. or "5901385".pn. or "5901440".pn. or "5901495".pn. or "5901550".pn. or "5901605".pn. or "5901660".pn. or "5901715".pn. or "5901770".pn. or "5901825".pn. or "5901880".pn. or "5901935".pn. or "5901990".pn. or "5902045".pn. or "5902100".pn. or "5902155".pn. or "5902210".pn. or "5902265".pn. or "5902320".pn. or "5902375".pn. or "5902430".pn. or "5902485".pn. or "5902540".pn. or "5902595".pn. or "5902650".pn. or "5902705".pn. or "5902760".pn. or "5902815".pn. or "5902870".pn. or "5902925".pn. or "5902980".pn. or "5903035".pn. or "5903090".pn. or "5903145".pn. or "5903200".pn. or "5903255".pn. or "5903310".pn. or "5903365".pn. or "5903420".pn. or "5903475".pn. or "5903530".pn. or "5903585".pn. or "5903640".pn. or "5903695".pn. or "5903750".pn. or "5903805".pn. or "5903860".pn. or "5903915".pn. or "5903970".pn. or "5904025".pn. or "5904080".pn. or "5904135".pn. or "5904190".pn. or "5904245".pn. or "5904300".pn. or "5904355".pn. or "5904410".pn. or "5904465".pn. or "5904520".pn. or "5904575".pn. or "5904630".pn. or "5904685".pn. or "5904740".pn. or "5904795".pn. or "5904850".pn. or "5904905".pn. or "5904960".pn. or "5905015".pn. or "5905070".pn. or "5905125".pn. or "5905180".pn. or "5905235".pn. or "5905290".pn. or "5905345".pn. or "5905400".pn. or "5905455".pn. or "5905510".pn. or "5905565".pn. or "5905620".pn. or "5905675".pn. or "5905730".pn. or "5905785".pn. or "5905840".pn. or "5905895".pn. or "5905950".pn. or "5906005".pn. or "5906060".pn. or "5906115".pn. or "5906170".pn. or "5906225".pn. or "5906280".pn. or "5906335".pn. or "5906390".pn. or "5906445".pn. or "5906500".pn. or "5906555".pn. or "5906610".pn. or "5906665".pn. or "5906720".pn. or "5906775".pn. or "5906830".pn. or "5906885".pn. or "5906940".pn. or "5906995".pn. or "5907050".pn. or "5907105".pn. or "5907160".pn. or "5907215".pn. or "5907270".pn. or "5907325".pn. or "5907380".pn. or "5907435".pn. or "5907490".pn. or "5907545".pn. or "5907600".pn. or "5907655".pn. or "5907710".pn. or "5907765".pn. or "5907820".pn. or "5907875".pn. or "5907930".pn. or "5907985".pn. or "5908040".pn. or "5908095".pn. or "5908150".pn. or "5908205".pn. or "5908260".pn. or "5908315".pn. or "5908370".pn. or "5908425".pn. or "5908480".pn. or "5908535".pn. or "5908590".pn. or "5908645".pn. or "5908700".pn. or "5908755".pn. or "5908810".pn. or "5908865".pn. or "5908920".pn. or "5908975".pn. or "5909030".pn. or "5909085".pn. or "5909140".pn. or "5909195".pn. or "5909250".pn. or "5909305".pn. or "5909360".pn. or "5909415".pn. or "5909470".pn. or "5909525".pn. or "5909580".pn. or "5909635".pn. or "5909690".pn. or "5909745".pn. or "5909800".pn. or "5909855".pn. or "5909910".pn. or "5909965".pn. or "5910020".pn. or "5910075".pn. or "5910130".pn. or "5910185".pn. or "5910240".pn. or "5910295".pn. or "5910350".pn. or "5910405".pn. or "5910460".pn. or "5910515".pn. or "5910570".pn. or "5910625".pn. or "5910680".pn. or "5910735".pn. or "5910790".pn. or "5910845".pn. or "5910900".pn. or "5910955".pn. or "5911010".pn. or "5911065".pn. or "5911120".pn. or "5911175".pn. or "5911230".pn. or "5911285".pn. or "5911340".pn. or "5911395".pn. or "5911450".pn. or "5911505".pn. or "5911560".pn. or "5911615".pn. or "5911670".pn. or "5911725".pn. or "5911780".pn. or "5911835".pn. or "5911890".pn. or "5911945".pn. or "5912000".pn. or "5912055".pn. or "5912110".pn. or "5912165".pn. or "5912220".pn. or "5912275".pn. or "5912330".pn. or "5912385".pn. or "5912440".pn. or "5912495".pn. or "5912550".pn. or "5912605".pn. or "5912660".pn. or "5912715".pn. or "5912770".pn. or "5912825".pn. or "5912880".pn. or "5912935".pn. or "5912990".pn. or "5913045".pn. or "5913100".pn. or "5913155".pn. or "5913210".pn. or "5913265".pn. or "5913320".pn. or "5913375".pn. or "5913430".pn. or "5913485".pn. or "5913540".pn. or "5913595".pn. or "5913650".pn. or "5913705".pn. or "5913760".pn. or "5913815".pn. or "5913870".pn. or "5913925".pn. or "5913980".pn. or "5914035".pn. or "5914090".pn. or "5914145".pn. or "5914200".pn. or "5914255".pn. or "5914310".pn. or "5914365".pn. or "5914420".pn. or "5914475".pn. or "5914530".pn. or "5914585".pn. or "5914640".pn. or "5914695".pn. or "5914750".pn. or "5914805".pn. or "5914860".pn. or "5914915".pn. or "5914970".pn. or "5915025".pn. or "5915080".pn. or "5915135".pn. or "5915190".pn. or "5915245".pn. or "5915300".pn. or "5915355".pn. or "5915410".pn. or "5915465".pn. or "5915520".pn. or "5915575".pn. or "5915630".pn. or "5915685".pn. or "5915740".pn. or "5915795".pn. or "5915850".pn. or "5915905".pn. or "5915960".pn. or "5916015".pn. or "5916070".pn. or "5916125".pn. or "5916180".pn. or "5916235".pn. or "5916290".pn. or "5916345".pn. or "5916400".pn. or "5916455".pn. or "5916510".pn. or "5916565".pn. or "5916620".pn. or "5916675".pn. or "5916730".pn. or "5916785".pn. or "5916840".pn. or "5916895".pn. or "5916950".pn. or "5917005".pn. or "5917060".pn. or "5917115".pn. or "5917170".pn. or "5917225".pn. or "5917280".pn. or "5917335".pn. or "5917390".pn. or "5917445".pn. or "5917500".pn. or "5917555".pn. or "5917610".pn. or "5917665".pn. or "5917720".pn. or "5917775".pn. or "5917830".pn. or "5917885".pn. or "5917940".pn. or "5918055".pn. or "5918110".pn. or "5918165".pn. or "5918220".pn. or "5918275".pn. or "5918330".pn. or "5918385".pn. or "5918440".pn. or "5918495".pn. or "5918550".pn. or "5918605".pn. or "5918660".pn. or "5918715".pn. or "5918770".pn. or "5918825".pn. or "5918880".pn. or "5918935".pn. or "5918990".pn. or "5919045".pn. or "5919100".pn. or "5919155".pn. or "5919210".pn. or "5919265".pn. or "5919320".pn. or "5919375".pn. or "5919430".pn. or "5919485".pn. or "5919540".pn. or "5919595".pn. or "5919650".pn. or "5919705".pn. or "5919760".pn. or "5919815".pn. or "5919870".pn. or "5919925".pn. or "5920000".pn. or "5920055".pn. or "5920110".pn. or "5920165".pn. or "5920220".pn. or "5920275".pn. or "5920330".pn. or "5920385".pn. or "5920440".pn. or "5920495".pn. or "5920550".pn. or "5920605".pn. or "5920660".pn. or "5920715".pn. or "5920770".pn. or "5920825".pn. or "5920880".pn. or "5920935".pn. or "5920990".pn. or "5921045".pn. or "5921100".pn. or "5921155".pn. or "5921210".pn. or "5921265".pn. or "5921320".pn. or "5921375".pn. or "5921430".pn. or "5921485".pn. or "5921540".pn. or "5921595".pn. or "5921650".pn. or "5921705".pn. or "5921760".pn. or "5921815".pn. or "5921870".pn. or "5921925".pn. or "5921980".pn. or "5922035".pn. or "5922090".pn. or "5922145".pn. or "5922200".pn. or "5922255".pn. or "5922310".pn. or "5922365".pn. or "5922420".pn. or "5922475".pn. or "5922530".pn. or "5922585".pn. or "5922640".pn. or "5922695".pn. or "5922750".pn. or "5922805".pn. or "5922860".pn. or "5922915".pn. or "5922970".pn. or "5923025".pn. or "5923080".pn. or "5923135".pn. or "5923190".pn. or "5923245".pn. or "5923300".pn. or "5923355".pn. or "5923410".pn. or "5923465".pn. or "5923520".pn. or "5923575".pn. or "5923630".pn. or "5923685".pn. or "5923740".pn. or "5923795".pn. or "5923850".pn. or "5923905".pn. or "5923960".pn. or "5924015".pn. or "5924070".pn. or "5924125".pn. or "5924180".pn. or "5924235".pn. or "5924290".pn. or "5924345".pn. or "5924400".pn. or "5924455".pn. or "5924510".pn. or "5924565".pn. or "5924620".pn. or "5924675".pn. or "5924730".pn. or "5924785".pn. or "5924840".pn. or "5924895".pn. or "5924950".pn. or "5925005".pn. or "5925060".pn. or "5925115".pn. or "5925170".pn. or "5925225".pn. or "5925280".pn. or "5925335".pn. or "5925390".pn. or "5925445".pn. or "5925500".pn. or "5925555".pn. or "5925610".pn. or "5925665".pn. or "5925720".pn. or "5925775".pn. or "5925830".pn. or "5925885".pn. or "5925940".pn. or "5925995".pn. or "5926050".pn. or "5926105".pn. or "5926160".pn. or "5926215".pn. or "5926270".pn. or "5926325".pn. or "5926380".pn. or "5926435".pn. or "5926490".pn. or "5926545".pn. or "5926600".pn. or "5926655".pn. or "5926710".pn. or "5926765".pn. or "5926820".pn. or "5926875".pn. or "5926930".pn. or "5926985".pn. or "5927040".pn. or "5927095".pn. or "5927150".pn. or "5927205".pn. or "5927260".pn. or "5927315".pn. or "5927370".pn. or "5927425".pn. or "5927480".pn. or "5927535".pn. or "5927590".pn. or "5927645".pn. or "5927700".pn. or "5927755".pn. or "5927810".pn. or "5927865".pn. or "5927920".pn. or "5927975".pn. or "5928030".pn. or "5928085".pn. or "5928140".pn. or "5928195".pn. or "5928250".pn. or "5928305".pn. or "5928360".pn. or "5928415".pn. or "5928470".pn. or "5928525".pn. or "5928580".pn. or "5928635".pn. or "5928690".pn. or "5928745".pn. or "5928800".pn. or "5928855".pn. or "5928910".pn. or "5928965".pn. or "5929020".pn. or "5929075".pn. or "5929130".pn. or "5929185".pn. or "5929240".pn. or "5929295".pn. or "5929350".pn. or "5929405".pn. or "5929460".pn. or "5929515".pn. or "5929570".pn. or "5929625".pn. or "5929680".pn. or "5929735".pn. or "5929790".pn. or "5929845".pn. or "5929900".pn. or "5929955".pn. or "5930010".pn. or "5930065".pn. or "5930120".pn. or "5930175".pn. or "5930230".pn. or "5930285".pn. or "5930340".pn. or "5930395".pn. or "5930450".pn. or "5930505".pn. or "5930560".pn. or "5930615".pn. or "5930670".pn. or "5930725".pn. or "5930780".pn.<
-----	----	---



S29	326	virtual and machine and heap and cach\$3 and (@ad<"20000602")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 17:43
S30	155	virtual and machine and heap and cach\$3 and (@ad<"20000602") and transaction\$2	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 17:44
S31	14	virtual and machine and heap and cach\$3 and (@ad<"20000602") and transaction\$2 and ((store or (in adj memory) or inmemory) with heap)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 17:54
S32	5	virtual and machine and heap and cach\$3 and (@ad<"20000602") and transaction\$2 and ((store or (in adj memory) or inmemory) with heap) and (state with heap)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 17:57
S33	0	virtual and machine and heap and cach\$3 and (@ad<"20000602") and transaction\$2 and ((store or (in adj memory) or inmemory) with heap) and (atomic with transaction)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2005/01/13 17:57

[IEEE HOME](#) | [SEARCH IEEE](#) | [SHOP](#) | [WEB ACCOUNT](#) | [CONTACT IEEE](#)[Membership](#) | [Publications/Services](#) | [Standards](#) | [Conferences](#) | [Careers/Jobs](#)**IEEE Xplore**  
RELEASE 1.8Welcome  
United States Patent and Trademark Office[Help](#)[FAQ](#)[Terms](#)[IEEE Peer](#)[Quick Links](#)[Review](#)[» Search Results](#)

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced
- ☐ CrossRef

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Print Format

Your search matched **0** of **1114101** documents.A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance** in **Descending** order.**Refine This Search:**

You may refine your search by editing the current search expression or entering a new one in the text box.

virtual &lt;and&gt; machine &lt;and&gt; heap &lt;and&gt; cache

[Search](#)☐ Check to search within this result set**Results Key:****JNL** = Journal or Magazine   **CNF** = Conference   **STD** = Standard**Results:****No documents matched your query.**[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC](#) | [Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved

[IEEE HOME](#) | [SEARCH IEEE](#) | [SHOP](#) | [WEB ACCOUNT](#) | [CONTACT IEEE](#)[Membership](#) | [Publications/Services](#) | [Standards](#) | [Conferences](#) | [Careers/Jobs](#)**IEEE Xplore**  
RELEASE 1.8Welcome  
United States Patent and Trademark Office**IEEE Xplore**  
1 Million Documents  
1 Million Users

» Search Results

[Help](#)[FAQ](#)[Terms](#)[IEEE Peer](#)[Quick Links](#)[Review](#)

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced
- ☐ CrossRef

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Print Format

Your search matched **1** of **1114101** documents.A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance** in **Descending** order.**Refine This Search:**

You may refine your search by editing the current search expression or entering a new one in the text box.

☐ Check to search within this result set**Results Key:****JNL** = Journal or Magazine   **CNF** = Conference   **STD** = Standard**1 Exploiting parallelism in the implementation of AGNA, a persistent programming system***Nikhil, R.S.; Heytens, M.L.;*

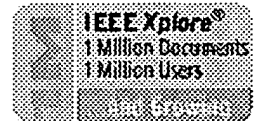
Data Engineering, 1991. Proceedings. Seventh International Conference on , 8-12 April 1991

Pages:660 - 669

[\[Abstract\]](#)   [\[PDF Full-Text \(740 KB\)\]](#)   **IEEE CNF**[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC](#) | [Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved


**IEEE Xplore**  
RELEASE 1.8

 Welcome  
United States Patent and Trademark Office


» Search Results

[Help](#) | [FAQ](#) | [Terms](#) | [IEEE Peer](#)
[Quick Links](#)
[Review](#)

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced
- ☐ CrossRef

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Print Format

 Your search matched **5** of **1114101** documents.

 A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance** in **Descending** order.
**Refine This Search:**

You may refine your search by editing the current search expression or entering a new one in the text box.


☐ Check to search within this result set
**Results Key:**
**JNL** = Journal or Magazine   **CNF** = Conference   **STD** = Standard

**1 Multimedia applications using a database programming language-  
INADA**
*Kaneko, K.; Makinouchi, A.; Aritsugi, M.;*

Multimedia Computing and Systems, 1996., Proceedings of the Third IEEE International Conference on , 17-23 June 1996

Pages:458 - 461

[\[Abstract\]](#)   [\[PDF Full-Text \(700 KB\)\]](#)   IEEE CNF

**2 Using virtual addresses as object references**
*Chase, J.; Levy, H.; Tiwary, A.;*

Object Orientation in Operating Systems, 1992., Proceedings of the Second International Workshop on , 24-25 Sept. 1992

Pages:245 - 248

[\[Abstract\]](#)   [\[PDF Full-Text \(316 KB\)\]](#)   IEEE CNF

**3 Priority queues and sorting methods for parallel simulation**
*Grammatikakis, M.D.; Liesche, S.;*

 Software Engineering, IEEE Transactions on , Volume: 26 , Issue: 5 , May 2000  
Pages:401 - 422

[\[Abstract\]](#)   [\[PDF Full-Text \(5408 KB\)\]](#)   IEEE JNL

**4 Approximate retrieval approaches for incremental similarity searches**
*Lumini, A.; Maio, D.;*

Multimedia Computing and Systems, 1999. IEEE International Conference on , Volume: 2 , 7-11 June 1999

Pages:757 - 761 vol.2

[\[Abstract\]](#)   [\[PDF Full-Text \(476 KB\)\]](#)   IEEE CNF

**5 Exploiting parallelism in the implementation of AGNA, a persistent programming system**

*Nikhil, R.S.; Heytens, M.L.;*

Data Engineering, 1991. Proceedings. Seventh International Conference on , 8-12 April 1991

Pages:660 - 669

[\[Abstract\]](#) [\[PDF Full-Text \(740 KB\)\]](#) [IEEE CNF](#)

---

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC](#) | [Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved



US Patent &amp; Trademark Office

[Subscribe \(Full Service\)](#) [Register \(Limited Service, Free\)](#) [Login](#)

 Search: ☒ The ACM Digital Library ☐ The Guide



THE ACM DIGITAL LIBRARY


[Feedback](#) [Report a problem](#) [Satisfaction survey](#)
Terms used virtual machine heap cache transaction

Found 495 of 675 searched out of 148,786.

Sort results by

[Save results to a Binder](#)[Try an Advanced Search](#)

Display results

[Search Tips](#)[Try this search in The ACM Guide](#)
☐ Open results in a new window

Results 1 - 20 of 200

Result page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [next](#)

Best 200 shown

Relevance scale ☐ ☐ ☐ ☐ ☐

# 1 [How java programs interact with virtual machines at the microarchitectural level](#)

Lieven Eeckhout, Andy Georges, Koen De Bosschere

 October 2003 **ACM SIGPLAN Notices , Proceedings of the 18th annual ACM SIGPLAN conference on Object-oriented programing, systems, languages, and applications**, Volume 38 Issue 11

Full text available: pdf(348.83 KB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Java workloads are becoming increasingly prominent on various platforms ranging from embedded systems, over general-purpose computers to high-end servers. Understanding the implications of all the aspects involved when running Java workloads, is thus extremely important during the design of a system that will run such workloads. In other words, understanding the interaction between the Java application, its input and the virtual machine it runs on, is key to a succesful design. The goal of this ...

**Keywords:** Java workloads, performance analysis, statistical data analysis, virtual machine technology, workload characterization

## 2 [Tuning garbage collection for reducing memory system energy in an embedded java environment](#)

G. Chen, R. Shetty, M. Kandemir, N. Vijaykrishnan, M. J. Irwin, M. Wolczko

 November 2002 **ACM Transactions on Embedded Computing Systems (TECS)**, Volume 1 Issue 1

Full text available: pdf(740.23 KB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Java has been widely adopted as one of the software platforms for the seamless integration of diverse computing devices. Over the last year, there has been great momentum in adopting Java technology in devices such as cellphones, PDAs, and pagers where optimizing energy consumption is critical. Since, traditionally, the Java virtual machine (JVM), the cornerstone of Java technology, is tuned for performance, taking into account energy consumption requires reevaluation, and possibly redesign of t ...


**Keywords:** Garbage collector, Java Virtual Machine (JVM), K Virtual Machine (KVM), low power computing

### 3 [Cache behavior of combinator graph reduction](#)

Philip J. Koopman, Peter Lee, Daniel P. Siewiorek

 April 1992 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 14 Issue 2

Additional Information:

Full text available:  pdf(2.18 MB)[full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)


The results of cache-simulation experiments with an abstract machine for reducing combinator graphs are presented. The abstract machine, called TIGRE, exhibits reduction rates that, for similar kinds of combinator graphs on similar kinds of hardware, compare favorably with previously reported techniques. Furthermore, TIGRE maps easily and efficiently onto standard computer architectures, particularly those that allow a restricted form of self-modifying code. This provides some indication th ...

**Keywords:** abstract machine, combinators, graph reduction, self-modifying code

#### 4 [Memory system performance of programs with intensive heap allocation](#)

Amer Diwan, David Tarditi, Eliot Moss

August 1995 **ACM Transactions on Computer Systems (TOCS)**, Volume 13 Issue 3

Full text available:  pdf(2.10 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Heap allocation with copying garbage collection is a general storage management technique for programming languages. It is believed to have poor memory system performance. To investigate this, we conducted an in-depth study of the memory system performance of heap allocation for memory systems found on many machines. We studied the performance of mostly functional Standard ML programs which made heavy use of heap allocation. We found that most machines support heap allocation poorly. However ...

**Keywords:** automatic storage reclamation, copying garbage collection, garbage collection, generational garbage collection, heap allocation, page mode, subblock placement, write through, write-back, write-buffer, write-miss policy, write-policy

#### 5 [Formalizing the safety of Java, the Java virtual machine, and Java card](#)

Pieter H. Hartel, Luc Moreau

December 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 4

Full text available:  pdf(442.86 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


We review the existing literature on Java safety, emphasizing formal approaches, and the impact of Java safety on small footprint devices such as smartcards. The conclusion is that although a lot of good work has been done, a more concerted effort is needed to build a coherent set of machine-readable formal models of the whole of Java and its implementation. This is a formidable task but we believe it is essential to build trust in Java safety, and thence to achieve ITSEC level 6 or Common Crite ...

**Keywords:** Common criteria, programming

#### 6 [Virtual memory on a narrow machine for an object-oriented language](#)

Ted Kaehler

June 1986 **ACM SIGPLAN Notices , Conference proceedings on Object-oriented programming systems, languages and applications**, Volume 21 Issue 11

Full text available:  pdf(1.66 MB)


Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

LOOM (Large Object-Oriented Memory) is a virtual memory implemented in software that supports the Smalltalk-80(™) programming language and environment on the Xerox Dorado computer. LOOM provides 8 billion bytes of secondary memory address space and is specifically designed to run on computers with a narrow word size (16-bit wide words). All storage is viewed as objects that contain fields. Objects may have an average size as small as 10 fields. LOOM swaps objects between primary and s ...

7 Virtual memory primitives for user programs

Andrew W. Appel, Kai Li

April 1991 **Proceedings of the fourth international conference on Architectural support for programming languages and operating systems**, Volume 26, 19, 25 Issue 4, 2, Special Issue


Full text available:  pdf(1.37 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

8 Query evaluation techniques for large databases

Goetz Graefe

June 1993 **ACM Computing Surveys (CSUR)**, Volume 25 Issue 2

Full text available:  pdf(9.37 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Database management systems will continue to manage large data volumes. Thus, efficient algorithms for accessing and manipulating large sets and sequences will be required to provide acceptable performance. The advent of object-oriented and extensible database systems will not solve this problem. On the contrary, modern data models exacerbate the problem: In order to manipulate large sets of complex objects as efficiently as today's database systems manipulate simple records, query-processi ...

**Keywords:** complex query evaluation plans, dynamic query evaluation plans, extensible database systems, iterators, object-oriented database systems, operator model of parallelization, parallel algorithms, relational database systems, set-matching algorithms, sort-hash duality

9 Software engineering: applications, practices tools (SE): A portable virtual machine for program debugging and directing

Camil Demetrescu, Irene Finocchi

March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**

Full text available:  pdf(206.36 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)


Directors are reactive systems that monitor the run-time environment and react to the emitted events. Typical examples of directors are debuggers and tools for program analysis and software visualization. In this paper we describe a cross-platform virtual machine that provides advanced facilities for implementing directors with low effort.

**Keywords:** debugging, directors, reversible computing, virtual machines

10 Computing curricula 2001

September 2001 **Journal on Educational Resources in Computing (JERIC)**

Full text available:  pdf(613.63 KB)


 html(2.78 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

11 Vertical profiling: understanding the behavior of object-oriented applications

Matthias Hauswirth, Peter F. Sweeney, Amer Diwan, Michael Hind

October 2004 **ACM SIGPLAN Notices , Proceedings of the 19th annual ACM SIGPLAN Conference on Object-oriented programming, systems, languages, and applications**, Volume 39 Issue 10

Full text available:  pdf(1.16 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Object-oriented programming languages provide a rich set of features that provide significant software engineering benefits. The increased productivity provided by these features comes at a justifiable cost in a more sophisticated runtime system whose responsibility is to implement these features efficiently. However, the virtualization



introduced by this sophistication provides a significant challenge to understanding complete system performance, not found in traditionally compiled languages ...

**Keywords:** hardware performance monitors, perturbation, software performance monitors, vertical profiling, whole-system analysis

## 12 Efficient memory management in a merged heap/stack prolog machine

Xining Li

September 2000 **Proceedings of the 2nd ACM SIGPLAN international conference on Principles and practice of declarative programming**


Full text available:  pdf(553.36 KB) Additional Information: [full citation](#), [references](#), [index terms](#)



## 13 Concurrent compacting garbage collection of a persistent heap

James O'Toole, Scott Nettles, David Gifford

December 1993 **ACM SIGOPS Operating Systems Review , Proceedings of the fourteenth ACM symposium on Operating systems principles**, Volume 27 Issue 5

Full text available:  pdf(1.50 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)



We describe a replicating garbage collector for a persistent heap. The garbage collector cooperates with a transaction manager to provide safe and efficient transactional storage management. Clients read and write the heap in primary memory and can commit or abort their write operations. When write operations are committed they are preserved in stable storage and survive system failures. Clients can freely access the heap during garbage collection because the collector concurrently builds a comp ...

## 14 Sharing and protection in a single-address-space operating system

Jeffrey S. Chase, Henry M. Levy, Michael J. Feeley, Edward D. Lazowska

November 1994 **ACM Transactions on Computer Systems (TOCS)**, Volume 12 Issue 4

Full text available:  pdf(2.87 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)



This article explores memory sharing and protection support in Opal, a single-address-space operating system designed for wide-address (64-bit) architectures. Opal threads execute within protection domains in a single shared virtual address space. Sharing is simplified, because addresses are context independent. There is no loss of protection, because addressability and access are independent; the right to access a segment is determined by the protection domain in which a thread executes. T ...

**Keywords:** 64-bit architectures, capability-based systems, microkernel operating systems, object-oriented database systems, persistent storage, protection, single-address-space operating systems, wide-address architectures

## 15 Application-controlled physical memory using external page-cache management

Kieran Harty, David R. Cheriton

September 1992 **ACM SIGPLAN Notices , Proceedings of the fifth international conference on Architectural support for programming languages and operating systems**, Volume 27 Issue 9

Full text available:  pdf(1.40 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



## 16 Mostly-copying reachability-based orthogonal persistence

Antony L. Hosking, Jiawan Chen

October 1999 **ACM SIGPLAN Notices , Proceedings of the 14th ACM SIGPLAN**



**conference on Object-oriented programming, systems, languages, and applications**, Volume 34 Issue 10

Full text available:  [pdf\(3.25 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We describe how reachability-based orthogonal persistence can be supported even in uncooperative implementations of languages such as C++ and Modula-3, and without modification to the compiler. Our scheme extends Bartlett's mostly-copying garbage collector to manage both transient objects and resident persistent objects, and to compute the reachability closure necessary for stabilization of the persistent heap. It has been implemented in our prototype of reachability-based persistence for M ...

**17 Improving 64-Bit Java JPF Performance by Compressing Heap References**

Ali-Reza Adl-Tabatabai, Jay Bharadwaj, Michal Cierniak, Marsha Eng, Jesse Fang, Brian T. Lewis, Brian R. Murphy, James M. Stichnoth

March 2004 **Proceedings of the international symposium on Code generation and optimization: feedback-directed and runtime optimization**


Full text available:  [pdf\(172.84 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#)

64-bit processor architectures like the Intel® Itanium® Processor Family are designed for large applications that need large memory addresses. When running applications that fit within a 32-bit address space, 64-bit CPUs are at a disadvantage compared to 32-bit CPUs because of the larger memory footprints for their data. This results in worse cache and TLB utilization, and consequently lower performance because of increased miss ratios. This paper considers software techniques for virtual machines that all ...

**18 Heap compression for memory-constrained Java environments**

G. Chen, M. Kandemir, N. Vijaykrishnan, M. J. Irwin, B. Mathiske, M. Wolczko

October 2003 **ACM SIGPLAN Notices , Proceedings of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 38 Issue 11

Full text available:  [pdf\(2.14 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


Java is becoming the main software platform for consumer and embedded devices such as mobile phones, PDAs, TV set-top boxes, and in-vehicle systems. Since many of these systems are memory constrained, it is extremely important to keep the memory footprint of Java applications under control. The goal of this work is to enable the execution of Java applications using a smaller heap footprint than that possible using current embedded JVMs. We propose a set of memory management strategies to reduce h ...

**Keywords:** Java virtual machine, garbage collection, heap, memory compression

**19 Language support for lightweight transactions**

Tim Harris, Keir Fraser

October 2003 **ACM SIGPLAN Notices , Proceedings of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 38 Issue 11


Full text available:  [pdf\(224.15 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Concurrent programming is notoriously difficult. Current abstractions are intricate and make it hard to design computer systems that are reliable and scalable. We argue that these problems can be addressed by moving to a declarative style of concurrency control in which programmers directly indicate the safety properties that they require. In our scheme the programmer demarks sections of code which execute within lightweight software-based transactions that commit atomically and exactly once. Th ...

**Keywords:** concurrency, conditional critical regions, non-blocking systems, transactions

**20 Distributed operating systems**

Andrew S. Tanenbaum, Robbert Van Renesse

December 1985 **ACM Computing Surveys (CSUR)**, Volume 17 Issue 4Full text available:  pdf (5.49 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Distributed operating systems have many aspects in common with centralized ones, but they also differ in certain ways. This paper is intended as an introduction to distributed operating systems, and especially to current university research about them. After a discussion of what constitutes a distributed operating system and how it is distinguished from a computer network, various key design issues are discussed. Then several examples of current research projects are examined in some detail ...

Results 1 - 20 of 200

Result page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [next](#)

The ACM Portal is published by the Association for Computing Machinery. Copyright ?2005 ACM, Inc.

[Terms of Usage](#) [Privacy Policy](#) [Code of Ethics](#) [Contact Us](#)Useful downloads:  [Adobe Acrobat](#)  [QuickTime](#)  [Windows Media Player](#)  [Real Player](#)


[Web](#) [Images](#) [Groups](#) <sup>New!</sup> [News](#) [Froogle](#) [more »](#)

virtual machine heap transaction cache OR

Search

[Advanced Search](#)  
[Preferences](#)

## Web

Results 1 - 50 of about 16,400 for virtual machine heap transaction cache OR caching. (0.08 seconds)
[\[PDF\] Java Virtual Machine Choices with CICS Transaction Server for z/OS ...](#)
File Format: PDF/Adobe Acrobat - [View as HTML](#)

... have REUSE=NO, run for one **transaction** and are ... state data in its storage **heap** which may ... Reports A Serially Reusable Java **Virtual Machine** Implementation for ...

[www-306.ibm.com/software/http/cics/library/whitepapers/JVMchoices\\_CicSTS23.pdf](http://www-306.ibm.com/software/http/cics/library/whitepapers/JVMchoices_CicSTS23.pdf) - [Similar pages](#)
[Performance data reported with the Resource Analyzer: WebSphere ...](#)

... the collection of information about the Java **Virtual Machine** (JVM) that ... High, long, The number of objects moved in the **heap**. ... Counters for the **transaction** manager. ...

[www-306.ibm.com/software/webservers/appserv/doc/v40/ae/inlocenter/was/06062100.html](http://www-306.ibm.com/software/webservers/appserv/doc/v40/ae/inlocenter/was/06062100.html) - 54k -

[Cached](#) - [Similar pages](#)
[\[ More results from www-306.ibm.com \]](#)
[WebLogic Server Performance and Tuning](#)

... Using WebLogic Startup Scripts to Set **Heap** Size. Java **Heap** Size Options. ... **Transaction** Timeout Ratio. ... Java **Virtual Machine** (JVM) Information. ...

[edocs.bea.com/wls/docs81/perform/](http://edocs.bea.com/wls/docs81/perform/) - 24k - [Cached](#) - [Similar pages](#)
[Tuning Liquid Data Performance](#)

... For more information, see the discussion of **transaction** isolation levels in Table 5-2. ... Java **Virtual Machine** (JVM). ... JVM **heap** size and garbage collection. ...

[edocs.bea.com/liquiddata/docs81/deploy/perftune.html](http://edocs.bea.com/liquiddata/docs81/deploy/perftune.html) - 62k - [Cached](#) - [Similar pages](#)
[\[ More results from edocs.bea.com \]](#)
[FastObjects Community Developer News: DYK: Performance improvement ...](#)

... Thus, objects are cached across **transaction** boundaries. Besides the maximum **heap** for the Java VM there is no upper limit for the size of the **transaction** **cache**. ...

[community.fastobjects.com/nntp/dnews.nsf/0/6DE79D4F8D1176BBBEA52B0B5A32D190?OpenDocument](http://community.fastobjects.com/nntp/dnews.nsf/0/6DE79D4F8D1176BBBEA52B0B5A32D190?OpenDocument) - 26k -

[Cached](#) - [Similar pages](#)
[\[PDF\] J2SE and J2EE Performance Best Practices, Tips And Techniques](#)
File Format: PDF/Adobe Acrobat - [View as HTML](#)

... Hotspot appropriately Dynamically adjust Java HotSpot VM software environment at runtime ... Server **machine** Larger **heap** Parallel garbage collector ...

[pds4.devpia.com/top\\_pds/19000/18124/J2SEandJ2EEPerformanceKorea.pdf](http://pds4.devpia.com/top_pds/19000/18124/J2SEandJ2EEPerformanceKorea.pdf) - [Similar pages](#)
[\[PDF\] Improving 64-Bit Java IPF Performance by Compressing Heap ...](#)
File Format: PDF/Adobe Acrobat - [View as HTML](#)

... taken on a 4-processor, 1.5 GHz Itanium® 2 **machine** with 6 ... register: The Both configura- tion is used; however, the VM ensures that ... Both, **heap** base in register ...

[www.cgo.org/cgo2004/papers/08\\_55\\_Stichnoth\\_J.pdf](http://www.cgo.org/cgo2004/papers/08_55_Stichnoth_J.pdf) - [Similar pages](#)
[Enterprise Java Performance: Best Practices](#)

... of **transactions** by changing the maximum **virtual machine** **heap** size in ... By increasing the **heap** size in this experiment ... time, depending on the type of **transaction**. ...

[www.intel.com/technology/itj/2003/volume07issue01/art03\\_java/p07\\_mch\\_level.htm](http://www.intel.com/technology/itj/2003/volume07issue01/art03_java/p07_mch_level.htm) - 61k - [Cached](#) - [Similar pages](#)
[Java\\*-Based XML Processing Performs on Intel® Architecture ...](#)

... By adjusting the **heap** size [8] from 200 ... Current projects include an Equity **transaction** processing system ... on J2EE and Java **Virtual Machine** (JVM) implementations ...

[www.intel.com/cd/ids/developer/asmo-na/eng/52534.htm?prn=Y](http://www.intel.com/cd/ids/developer/asmo-na/eng/52534.htm?prn=Y) - 35k - [Cached](#) - [Similar pages](#)
[\[ More results from www.intel.com \]](#)

[PDF\] HP OpenView Smart Plug-in for BEA WebLogic Server](#)File Format: PDF/Adobe Acrobat - [View as HTML](#)... **Transacti** n rates ... Java **Virtual Machine** heap utilization ... gathers MBean information from desired application servers into a centralized MBean data **cache**. ...[www.managementsoftware.hp.com/products/smart\\_plug-ins/ds/spi\\_bea\\_weblogic\\_ds\\_jun04.pdf](http://www.managementsoftware.hp.com/products/smart_plug-ins/ds/spi_bea_weblogic_ds_jun04.pdf) - [Similar pages](#)[PPT\] StarJIT: A Dynamic Compiler for Managed Runtime Environments](#)File Format: Microsoft Powerpoint 97 - [View as HTML](#)... Both. 32. @. Reduction in cycles per **transaction**. Memory performance gains outweigh. ... Compress object pointers, vtable pointers in **heap**. ... The ORP **virtual machine**. ...[www.mm-net.org.uk/school/slides/MS\\_Deita\\_Summer\\_School\\_Gold.ppt](http://www.mm-net.org.uk/school/slides/MS_Deita_Summer_School_Gold.ppt) - [Similar pages](#)[PDF\] J2EE Performance – Best Practices, Tips And Techniques](#)File Format: PDF/Adobe Acrobat - [View as HTML](#)... J2EE Application Application/DB Server Java **Virtual Machine** Operating System Hardware ... Memory consumed by all beans affect the **heap** available in the VM ...[developers.sun.com/events/techdays/presentations/newyork/J2EEPerformance\\_SRitter.pdf](http://developers.sun.com/events/techdays/presentations/newyork/J2EEPerformance_SRitter.pdf) - [Similar pages](#)[iAnywhere.com - Performance Monitor statistics](#)... Commits, Connection and Database, Occurs when a commit of the **transaction** log is ...Fixed Size, Server, The total bytes allocated to the Java VM fixed **heap**. ...[www.iAnywhere.com/developer/product\\_manuals/sqlanywhere/0901/en/html/dbdaen9/00000765.htm](http://www.iAnywhere.com/developer/product_manuals/sqlanywhere/0901/en/html/dbdaen9/00000765.htm) - 35k -[Cached](#) - [Similar pages](#)[iAnywhere.com - Database-level properties](#)... CurrentRedoPos, The current offset in the **transaction** log file where ... number of free pages in the **virtual** dbspace, represented ... JavaHeapSize, **Heap** size per Java VM ...[www.iAnywhere.com/developer/product\\_manuals/sqlanywhere/0901/en/html/dbdaen9/00000769.htm](http://www.iAnywhere.com/developer/product_manuals/sqlanywhere/0901/en/html/dbdaen9/00000769.htm) - 32k -[Cached](#) - [Similar pages](#)[ [More results from www.iAnywhere.com](#) ][CICS TS 2](#)... class files, loaded into the **virtual machine**, and instantiated ... become long-lived middleware **heap** objects ... new selection mechanism for CICS **Transaction** Server for ...[www.mardon-y2k.com/CICS%20TS%2023%20Article.htm](http://www.mardon-y2k.com/CICS%20TS%2023%20Article.htm) - 58k - [Cached](#) - [Similar pages](#)[Carol McDonald's Blog: March 2004 Archive](#)... Days presentation on How to Tune the HotSpot **Virtual Machine**. ... EJBs that will be collocated within the same VM. ... a sufficient size for the JVM's **heap**, Data Base ...[weblogs.java.net/blog/caroljmcDonald/archive/2004/03/](http://weblogs.java.net/blog/caroljmcDonald/archive/2004/03/) - 25k - [Cached](#) - [Similar pages](#)[Dynamo/ZONE::Articles::How to Install and Tune ATG Dynamo Platf...](#)... If a **transaction** is long, has many complexities and/or ... the young generation size to one quarter (¼) of the **heap**. ... VM options go to Sun's Java HotSpot VM Options ...[www.dynamozone.com/article.php?sid=41](http://www.dynamozone.com/article.php?sid=41) - 33k - [Cached](#) - [Similar pages](#)[Frequently Asked Questions About JBossCache](#)... features TreeCache such as **cache** mode, **transaction** isolation level ... in addition to increase the VM **heap** size, you ... if the URL is not in the **cache**, the CacheLoader ...[docs.jboss.org/jbCache/FAQ.html](http://docs.jboss.org/jbCache/FAQ.html) - 40k - [Cached](#) - [Similar pages](#)[Why does Exchange recommend /3GB if you have more than 1GB of...](#)... 2G > of **virtual** address space on a machine with > 1G ... help is if there weren't sufficient **virtual** memory addresses available to allocate a new **heap**. ...[weblogs.asp.net/oldnewthing/archive/2004/06/13/214117.aspx](http://weblogs.asp.net/oldnewthing/archive/2004/06/13/214117.aspx) - 33k - [Cached](#) - [Similar pages](#)[PDF\] How Java Programs Interact with Virtual Machines at the ...](#)File Format: PDF/Adobe Acrobat - [View as HTML](#)

... Table 1: The **virtual machine** configurations we have used to ... Execution requires a **heap** size of 2MiB while ... SPECjbb2000 A three-tier **transaction** system, where the ...  
[www.elis.ugent.be/~leeckhou/papers/oopsia03.pdf](http://www.elis.ugent.be/~leeckhou/papers/oopsia03.pdf) - [Similar pages](#)

### SPECjbb

... JVM Version, Fast **Virtual Machine** (Fast VM) v1.3.1-1 ... compacting causes the Compaq Fast Java VM to use ... Warehouses, Thrput, Total **heap** (MB), Thread spread %, % > 120s ...  
[www.spec.org/jbb2000/results/res2001q3/jbb2000-20010724-00058.html](http://www.spec.org/jbb2000/results/res2001q3/jbb2000-20010724-00058.html) - 16k - [Cached](#) - [Similar pages](#)

### [PDF] Introducing Apache Derby

File Format: PDF/Adobe Acrobat - [View as HTML](#)  
 ... Can run when Java **heap** memory restricted to 4Mb ... Java is not slow! Today's **virtual** machines contain ... interpreted byte code to native **machine** code ...  
[incubator.apache.org/derby/binaries/djd\\_derby\\_intro.pdf](http://incubator.apache.org/derby/binaries/djd_derby_intro.pdf) - [Similar pages](#)

### POS8: Accepted Papers

... We also require **virtual machine** extensions to support read ... been incorporated into the stable **heap** layer of ... **Transaction** systems generally use a disk-based log ...  
[www.ppg.dcs.st-and.ac.uk/Conferences/POS8/Abstracts.html](http://www.ppg.dcs.st-and.ac.uk/Conferences/POS8/Abstracts.html) - 25k - [Cached](#) - [Similar pages](#)

### RE: DB2 Instance Memory problem

... active databases (NUMDB) = 8 **Transaction** processor monitor ... 4KB) (UDF\_MEM\_SZ) = 256  
 Java **Virtual Machine** **heap** size (4KB ... RESTBUFSZ) = 1024 Sort **heap** threshold (4KB ...  
[www2.herehey.com:8888/db2eug.w3archive/200208/msg00023.html](http://www2.herehey.com:8888/db2eug.w3archive/200208/msg00023.html) - 10k - [Cached](#) - [Similar pages](#)

### [PDF] Proceedings of the Java™ Virtual Machine Research and Technology ...

File Format: PDF/Adobe Acrobat  
 ... and 50% will affect the large on-chip **cache**. ... method can be applied to other **virtual** machine implementations as ... The **heap** object management can be modified to ...  
[www.usenix.org/events/jvm01/full\\_papers/chen/chen.pdf](http://www.usenix.org/events/jvm01/full_papers/chen/chen.pdf) - [Similar pages](#)

### Java™ Virtual Machine Research and Technology Symposium 2001 ...

... memory error susceptibility of the Kaffe **virtual machine** using fault ... here, because the same **heap** management system ... "Lightweight Recoverable **Virtual** Memory," In ...  
[www.usenix.org/events/jvm01/full\\_papers/chen/chen.html/](http://www.usenix.org/events/jvm01/full_papers/chen/chen.html/) - 66k - [Cached](#) - [Similar pages](#)  
[\[ More results from www.usenix.org \]](#)

### [PDF] Measuring J2EE™ Technology-based Application Performance via ...

File Format: PDF/Adobe Acrobat - [View as HTML](#)  
 ... Java Application Application Server Operating System 3 Java **Virtual Machine** 22 ... 27  
 Tuning GC • App servers size their **heap** too small ... 1 VM 2 VMs Ideal # CPUs ...  
[www.javapassion.com/j2ee/J2EEPerformance.pdf](http://www.javapassion.com/j2ee/J2EEPerformance.pdf) - [Similar pages](#)

### Tuning the WebLogic Server

... of time in garbage collection, lower your **heap** size until you ... you should run more WebLogic Servers on your **machine**. ... of EJBs is analogous to **virtual** memory on a ...  
[www.weblogic.com/docs45/admindocs/tuning.html](http://www.weblogic.com/docs45/admindocs/tuning.html) - 41k - [Cached](#) - [Similar pages](#)

### The Microsoft Overlay Virtual Environment (MOVE) (Archived Visual ...

... Unlike **virtual** memory, however, you are not limited to ... memory; Load from extended memory; Discard from **heap**; ... The overlay that is the object of the **transaction**. ...  
[msdn.microsoft.com/archive/en-us/dnarcv/html/msdn\\_draft3.asp](http://msdn.microsoft.com/archive/en-us/dnarcv/html/msdn_draft3.asp) - 50k - [Cached](#) - [Similar pages](#)

### The Many Types Of Programs

... to binary, or a fast **virtual machine** implementation ... No mass storage, **virtual** memory, etc ... system initialization) is unacceptable—many **heap** allocation strategies ...  
[c2.com/cgi/wiki/TheManyTypesOfPrograms](http://c2.com/cgi/wiki/TheManyTypesOfPrograms) - 33k - [Cached](#) - [Similar pages](#)

### WebSphere Advisor :: Take Your Middle-Tier Caches to the Next ...

... if the cached data was managed across both the Java **Virtual Machine (JVM) heap** and the ... a footprint that may be too "heavy" for a single middle-tier machine. ...

[websphereadvisor.com/doc/08924 - Similar pages](#)

### [PDF] eBusiness Back-Office Integration

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... necessarily on clients **virtual machine** provides portability for server applications VM is not enough ... Enterprise quality Java Scale to gigabyte heap sizes ...

[www.soberit.hut.fi/T-86/T-86.141/s2000/IBM\\_eBIZ.pdf - Similar pages](#)

### [PDF] A Portable Virtual Machine for Program Debugging and Directing

File Format: PDF/Adobe Acrobat

... keep blocks and holes inside the **heap**: the error ... of an entire subroutine as a **transaction**), or by ... **REMARKS** We have presented the Leonardo **Virtual Machine**, an ab ...

[portal.acm.org/ft\\_gateway.cfm?id=968205&type=pdf - Similar pages](#)

### Characterizing the memory behavior of Java workloads

... such as information on the breakup of **heap** accesses among ... the SPEC JVM98 benchmarks on the Java **virtual machine**. ... at Bytecode and Ultra-SPARC Machine Code Levels ...

[portal.acm.org/citation.cfm?id=378783 - Similar pages](#)

[ More results from portal.acm.org ]

### [PDF] Lecture 2: OS Organization

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... Thrd | File | VM | SIG CPU | Disk | Mem | Int ... User code segment User data segment User **heap** ... Enable/disable interrupts – Halt the machine q Architecture ...

[www.cs.utah.edu/classes/cs5460/lectures/lecture2-3up.pdf - Similar pages](#)

### Learning About Middleware Server

... client must wait for the previous **transaction** to end ... MWS using the -Xmx option to resize the Java **heap**. ... you use -Xmx128M , then the Java **Virtual Machine** uses a ...

[www.sas.com/rnd/appdev/doc/MWSlearn.htm - 26k - Cached - Similar pages](#)

### Database Manager Configuration Node type = Database Server with ...

... System Support (FEDERATED) = NO **Transaction** processor monitor ... UDF\_MEM\_SZ) = 256 Java **Virtual Machine heap** size (4KB ... RESTBUFSZ) = 1024 Sort **heap** threshold (4KB ...

[www.bmc.com/USA/Promotions/attachments/dgwg\\_sample\\_snap\\_html\\_dbmcfp.html - 6k - Cached - Similar pages](#)

### RVM Recoverable Virtual Memory: C Declaration for RVM

... call or simple subtract if **machine** has 64 ... not change \*/ rvm\_bool\_t from\_heap; /\* true if **heap** allocated; do ... region in segment \*/ char \*vmaddr; /\* vm address of ...

[linux.math.tufts.res.in/programming-doc/coda/html/rvm\\_manual-10.html - 38k - Cached - Similar pages](#)

### Frozen database on sequence select

... root path of the # JVM (Java **virtual machine**) running the ... a database # in read only mode from multiple VM's. ... 10 % Using standard IO API for **heap** buffered file ...

[mckoi.com/database/maillist/msg05505.html - 15k - Cached - Similar pages](#)

### [PDF] JVM Susceptibility to Memory Errors

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... and 50% will affect the large on-chip **cache**. ... method can be applied to other **virtual machine** implementa- tions as ... The **heap** object management can be modified to ...

[www.eecg.toronto.edu/~lie/papers/jvm-hp.pdf - Similar pages](#)

### [PDF] NUMA-Aware Java Heaps for Server Applications

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... application on the modified **virtual machine** to gather ... we generate a trace of **heap** allocations and ... address transactions at fixed **transaction** boundaries produces ...

[www.cs.umd.edu/~tikir/papers/ipdps05.pdf - Similar pages](#)

(PPT) Dynamic Code Coverage using dyninstAPIFile Format: Microsoft Powerpoint 97 - [View as HTML](#)... **Transaction** samples are taken. Processor requests transactions. 9.75. 3.07. ... Potential optimization techniques. NUMA-Aware Java **heap** for the **virtual machine**. ...[www.cs.umd.edu/~tikir/presentations/sc04.ppt](http://www.cs.umd.edu/~tikir/presentations/sc04.ppt) - [Similar pages](#)Tips April 2004... capacity settings; Java **virtual machine** heap size; Application ... and prepared statement **cache**; Solaris operating ... keep alive connections; **Transaction** logs; Object ...[www.javaperformancetuning.com/news/newtips041.shtml](http://www.javaperformancetuning.com/news/newtips041.shtml) - 32k - Jan 12, 2005 - [Cached](#) - [Similar pages](#)Which Java VM scales best?... of a Java Web server or the **transaction**-processing requirements ... Microsoft **virtual machin** for Java (jview version 4.79.2405 ... No **heap** or stack command options are ...[www.javaworld.com/javaworld/jw-08-1998/jw-08-volanomark.html](http://www.javaworld.com/javaworld/jw-08-1998/jw-08-volanomark.html) - [Similar pages](#)(PDF) White PaperFile Format: PDF/Adobe Acrobat - [View as HTML](#)... 2 datasource to end a **transaction** branch ... Insufficient **heap** sizes are indicated by frequent garbage ... runs followed possibly by the **virtual machine** running out of ...[bdn.borland.com/article/images/29769/performance\\_tuning\\_ejb\\_based\\_applications.pdf](http://bdn.borland.com/article/images/29769/performance_tuning_ejb_based_applications.pdf) - [Similar pages](#)(PDF) A Portable Virtual Machine for Program Debugging and DirectingFile Format: PDF/Adobe Acrobat - [View as HTML](#)... keep blocks and holes inside the **heap**: the error ... of an entire subroutine as a **transacti** n), or by ... We have presented the Leonardo **Virtual Machine**, an abstract ...[gauguin.info.uniroma2.it/~finocchi/papers/sac04.pdf](http://gauguin.info.uniroma2.it/~finocchi/papers/sac04.pdf) - [Similar pages](#)RTTS: Services - Application Server Tuning... Typical solutions involved tuning the Java **Virtual Machine** (JVM) **heap** size and ... WebSphere, IIS/ASP, ColdFusion, JRun, Microsoft **Transaction** Server (MTS), CGI ...[www.rttswb.com/services/applicationservertuning/index.cfm](http://www.rttswb.com/services/applicationservertuning/index.cfm) - 35k - [Cached](#) - [Similar pages](#)(PPT) Jerry HeldFile Format: Microsoft Powerpoint 97 - [View as HTML](#)... Java **Virtual Machine**. Application Server. ... JVM Tuning. A number of hotspot VM options are available for tuning. ... Garbage Collection. Change the JVM **Heap** size. ...[trijug.org/downloads/trijugnov.ppt](http://trijug.org/downloads/trijugnov.ppt) - [Similar pages](#)(PDF) A Performance Study of Alternative Object Faulting and Pointer ...File Format: PDF/Adobe Acrobat - [View as HTML](#)... One partition was used for the **transaction** log and the other was used to store normal data. The **virtual** memory swap area on the client **machine** was also ...[www.cs.wisc.edu/~dewitt/includes/oodbms/vidb92.pdf](http://www.cs.wisc.edu/~dewitt/includes/oodbms/vidb92.pdf) - [Similar pages](#)A security architecture for PerDiS in Java... divides the memory of the Java **Virtual Machine** into two ... of persistent objects and the standard **heap** that holds ... to the cluster **cache** on **transaction** commit for ...[www.dcs.qmw.ac.uk/research/distrib/perdis/papers/Perdis\\_Java\\_security.html](http://www.dcs.qmw.ac.uk/research/distrib/perdis/papers/Perdis_Java_security.html) - 16k - [Cached](#) - [Similar pages](#)

Goooooooooooooogle ►

Result Page: 1 2 3 4 5 6 7 8 9 10 [Next](#)Free! Get the Google Toolbar. [Download Now](#) - [About Toolbar](#)



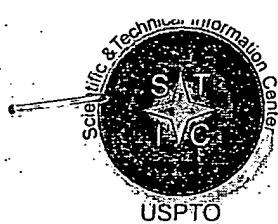


virtual machine heap transaction Search

[Search within results](#) | [Language Tools](#) | [Search Tips](#) | [Dissatisfied? Help us improve](#)

[Google Home](#) - [Advertising Programs](#) - [Business Solutions](#) - [About Google](#)

©2005 Google



24889  
75

# STIC EIC 2100 Search Request Form

Today's Date:

6/14/04

What date would you like to use to limit the search?

Priority Date: 6/2/2000 Other:

Name Chongshan Chen

AU 2172 Examiner # 79547

Room # 4B25 Phone 305-8319

Serial # 09/587,076

Format for Search Results (Circle One):

☒ PAPER

☐ DISK

☐ EMAIL

Where have you searched so far?

☒ USP

☐ DWPI

☐ EPO

☐ JPO

☐ ACM

☐ IBM TDB

☐ IEEE

☐ INSPEC

☐ SPI

☐ Other

Is this a "Fast & Focused" Search Request? (Circle One) YES ☒ NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at <http://ptoweb/patents/stic/stic-tc2100.htm>.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

A method for managing a virtual heap for a process executing within a virtual machine executing within a device, the method comprising:  
providing a store heap for the process, wherein the store heap is comprised in the virtual heap;  
providing an in-memory heap for the process, where the in-memory heap comprises a cached portion of the store heap for the process, and wherein the in-memory heap is comprised in the virtual heap;  
performing an atomic transaction on the virtual heap, wherein said performing the atomic transaction comprises performing one or more transaction tasks, and wherein said performing the atomic transaction changes a state of the virtual heap by modifying one or more portions of the virtual heap.

STIC Searcher

Kerese Esterfeld

Phone

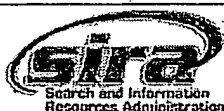
308-7795

Date picked up

6/23/04 9:00am

Date Completed

6/25/04 10:40am



0510/-0441- 1912100

Set	Items	Description
S1	162	AU=(ABDELAZIZ, M? OR ABDELAZIZ M? OR TRAVERSAT, B? OR TRAVERSAT B? OR SLAUGHTER, G? OR SLAUGHTER G? OR SAULPAUGH, T? OR SAULPAUGH T?)
S2	150	S1 AND IC=G06F?
S3	23	S2 AND IC=G06F-015?
File 347:JAPIO Nov 1976-2004/Feb(Updated 040607)		
(c) 2004 JPO & JAPIO		
File 348:EUROPEAN PATENTS 1978-2004/Jun W02		
(c) 2004 European Patent Office		
File 349:PCT FULLTEXT 1979-2002/UB=20040617,UT=20040610		
(c) 2004 WIPO/Univentio		
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200439		
(c) 2004 Thomson Derwent		

3/5/1 (Item 1 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

06725285 \*\*Image available\*\*  
METHOD AND DATA FORMAT FOR EXCHANGING DATA BETWEEN JAVA SYSTEM DATABASE  
ENTRY AND LDA DIRECTORY SERVICE

PUB. NO.: 2000-311123 [JP 2000311123 A]  
PUBLISHED: November 07, 2000 (20001107)  
INVENTOR(s): TRAVERSAT BERNARD A  
SAULPAUGH THOMAS  
SLAUGHTER GREGORY L  
APPLICANT(s): SUN MICROSYST INC  
APPL. NO.: 2000-022256 [JP 200022256]  
FILED: January 31, 2000 (20000131)  
PRIORITY: 239596 [US 99239596], US (United States of America), January  
29, 1999 (19990129)  
INTL CLASS: G06F-013/00 ; G06F-012/00 ; G06F-015/00 ; G06F-017/30 ;  
H04L-029/06

#### ABSTRACT

PROBLEM TO BE SOLVED: To make any kind of modification of application from  
a server by transmitting data between a configuration server schema and a  
network directory service.

SOLUTION: On a server computer 309 which constitutes part of a network, a  
configuration server schemer 311 is made present and data are exchanged  
between the configuration schema 311 and a DAP (lightweight directory  
access protocol) directory service. The configuration schema 311 provides  
areas for two machine name spaces 403 and a user name space 407.  
Consequently, and kind of modification of application can be transmitted  
from the server 311.

COPYRIGHT: (C)2000,JPO

3/5/2 (Item 2 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

06537260 \*\*Image available\*\*  
GENERAL SCHEMA FOR STORING CONFIGURATION INFORMATION ON CLIENT COMPUTER AND  
SERVER COMPUTER

PUB. NO.: 2000-122984 [JP 2000122984 A]  
PUBLISHED: April 28, 2000 (20000428)  
INVENTOR(s): TRAVERSAT BERNARD A  
SAULPAUGH THOMAS  
SCHMIDT JEFFREY A  
SLAUGHTER GREGORY L  
WILLIAM J TRACY  
STEVE G WOODWARD  
APPLICANT(s): SUN MICROSYST INC  
APPL. NO.: 11-134685 [JP 99134685]  
FILED: May 14, 1999 (19990514)  
PRIORITY: 79500 [US 9879500], US (United States of America), May 14,  
1998 (19980514)  
79501 [US 9879501], US (United States of America), May 14,  
1998 (19980514)  
INTL CLASS: G06F-015/177 ; G06F-009/06 ; G06F-013/00

#### ABSTRACT

PROBLEM TO BE SOLVED: To disclose a data schema having an (n)-branch tree  
structure including a data layer, etc., by providing a data framework which  
can be accessed by an arbitrary client computer among client computers.

SOLUTION: A client schema hierarchical structure 103 and a server schema hierarchical structure uses an (n)-branch tree. A root entry 201 is provided at the root of the tree. Further, a 1st level 203 in the client schema 103 is right below the root entry 201 and has name space entries. Then a hierarchical structure, i.e., a data schema for displaying and storing in a system data base the data framework, i.e., a data schema and a relative protocol for exchanging data in the data schema between computers is disclosed.

COPYRIGHT: (C)2000,JPO

3/5/3 (Item 3 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

06481445 \*\*Image available\*\*  
PROTOCOL FOR EXCHANGING CONFIGURATION DATA INSIDE COMPUTER NETWORK

PUB. NO.: 2000-067022 [JP 2000067022 A]  
PUBLISHED: March 03, 2000 (20000303)  
INVENTOR(s): TRAVERSAT BERNARD A  
SAULPAUGH THOMAS  
SCHMIDT JEFFREY A  
SLAUGHTER GREGORY L  
APPLICANT(s): SUN MICROSYST INC  
APPL. NO.: 11-134712 [JP 99134712]  
FILED: May 14, 1999 (19990514)  
PRIORITY: 79499 [US 9879499], US (United States of America), May 14,  
1998 (19980514)  
INTL CLASS: G06F-015/177 ; G06F-013/00

#### ABSTRACT

PROBLEM TO BE SOLVED: To execute the storage and exchange of data among plural computers by providing a data schemer having an n-branch tree structure provided with a route node layer, intermediate node layer and data layer for storing configuration data.

SOLUTION: An n-branch tree is used for a client schemer hierarchy structure 103. A route entry 201 is provided on the route of the tree. A first level 203 in the hierarchical structure is located just under the route entry 201 and has plural name space entries. In this case, six name spaces exist inside a general-purpose client schemer 103. Each entry in the tree has a single host and several slave nodes. The name space such as a software name space 209 is an especially designated sub tree provided with plural entries concerning the configuration data on the software of any specified client such as a client 105.

COPYRIGHT: (C)2000,JPO

3/5/4 (Item 1 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
(c) 2004 WIPO/Univentio. All rts. reserv.

00465445 \*\*Image available\*\*  
APPARATUS AND METHOD FOR SECURE DEVICE ADDRESSING  
DISPOSITIF ET PROCEDE POUR L'ADRESSAGE SUR DE DISPOSITIF  
Patent Applicant/Assignee:  
SUN MICROSYSTEMS INC,  
Inventor(s):  
SAULPAUGH Thomas ,  
BOHMAN David E II  
Patent and Priority Information (Country, Number, Date):  
Patent: WO 9855910 A2 19981210

Application: WO 98US11267 19980602 (PCT/WO US9811267)  
Priority Application: US 97869659 19970605  
Designated States: JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
Main International Patent Class: G06F-011/00  
International Patent Class: G06F-009/45 ; G06F-012/10 ; G06F-013/00 ;  
G06F-015/16 ; G06F-009/22  
Publication Language: English  
Fulltext Availability:  
Detailed Description  
Claims  
Fulltext Word Count: 7781

#### English Abstract

A method for securely accessing a peripheral device at an absolute address is disclosed. A computer program (200) is executed to request from an operating system a memory access object including a procedure (205) executable to address the peripheral device at the absolute address. An operating system procedure (215) is executed to provide the memory access object to the computer program if a value associated with the computer program indicates that the computer program (235) is trusted to perform absolute addressing. If the operating system procedure (225) provides the memory access object to the computer program, the computer program is executed invoke the memory access object procedure (240) to address the peripheral device at the absolute address.

#### French Abstract

L'invention concerne un procede pour acceder de maniere sure a un peripherique au niveau d'une adresse absolue. Un programme informatique est execute pour la demande a un systeme d'exploitation d'un objet acces memoire comprenant une procedure dont l'execution permet d'accéder au peripherique au niveau de l'adresse absolue. Une procedure du systeme d'exploitation est executee pour l'attribution de cet objet acces memoire au programme informatique si une valeur associee au programme indique que ce programme est valide pour effectuer l'adressage absolu. Si la procedure du systeme d'exploitation fournit l'objet acces memoire au programme informatique, ce programme est execute pour solliciter la procedure d'objet acces memoire afin d'accéder au peripherique au niveau de l'adresse absolue.

3/5/5 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

016181549 \*\*Image available\*\*  
WPI Acc No: 2004-339436/200431  
XRPX Acc No: N04-271360

**Peer-to-peer email messaging system formats received email message according to peer-to-peer protocol and transmits it to specific destination peer node**

Patent Assignee: ABDEL-AZIZ M M (ABDE-I); CLARY M J (CLAR-I); JOY W N (JOYW-I); REID M (REID-I); TRAVERSAT B A (TRAV-I); VANDENHOOGEN I (VAND-I)

Inventor: ABDEL-AZIZ M M; CLARY M J; JOY W N; REID M; TRAVERSAT B A ; VANDENHOOGEN I

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040064511	A1	20040401	US 2002231225	A	20020829	200431 B

Priority Applications (No Type Date): US 2002231225 A 20020829

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20040064511	A1	42	G06F-015/16	

Abstract (Basic): US 20040064511 A1

NOVELTY - A system consists of peer nodes which receive an email message formatted according to an email communication protocol. The

system sends the peer-to-peer message comprising received email message which is formatted according to peer-to-peer protocol to the destination peer node.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) peer-to-peer email messaging method; and
- (2) computer readable medium storing peer-to-peer email messaging method.

USE - Peer-to-peer email messaging system for Internet.

ADVANTAGE - Peer-to-peer platform is utilized, reaching of email message to an intended destination is ensured.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the peer-to-peer email messaging system.

pp; 42 DwgNo 2/13

Title Terms: PEER; PEER; MESSAGING; SYSTEM; FORMAT; RECEIVE; MESSAGE;

ACCORD; PEER; PEER; PROTOCOL; TRANSMIT; SPECIFIC; DESTINATION; PEER; NODE

Derwent Class: T01

International Patent Class (Main): G06F-015/16

File Segment: EPI

3/5/6 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

016110152 \*\*Image available\*\*

WPI Acc No: 2004-268028/200425

SRPX Acc No: N04-211975

**Peer computing system used for pagers, performs search of cache index that matches with key/value pairs associated with query message**

Patent Assignee: ABDELAZIZ M M (ABDE-I); BOTROS S (BOTR-I); HUGLY J

(HUGL-I); J DUIGOU M (DUIG-I); TRAVERSAT B A (TRAV-I)

Inventor: **ABDELAZIZ M M** ; BOTROS S; DUIGOU M J; HUGLY J; **TRAVERSAT B A**

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040044727	A1	20040304	US 2002231544	A	20020830	200425 B

Priority Applications (No Type Date): US 2002231544 A 20020830

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040044727	A1		89	G06F-015/16	

Abstract (Basic): US 20040044727 A1

NOVELTY - Each of peer node cache an index comprising a key/value pair (810A-810n), from network resource advertisement (808) stored on another peer node. The peer node receives a query message from other peer node requesting a particular network resource including corresponding key/value pairs, and performs search of the cached index that matches with the key/value pair associated with the query message.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) peer node;
- (2) peer computing method; and
- (3) computer-accessible recorded medium storing peer computing program.

USE - For delivering services e.g. music file sharing service, generic file sharing service, instant message service to mobile devices such as pagers personal digital assistant (PDA), network routers, sensors, medical equipments, servers and personal computers (PC) and cell phones, connected in peer-to-peer networks.

ADVANTAGE - The peer computing system with flexible mechanism supporting peer-to-peer computing and which is easily implementable, is obtained.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the peer computing system.

pp; 89 DwgNo 34A/37

Title Terms: PEER; COMPUTATION; SYSTEM; PERFORMANCE; SEARCH; CACHE; INDEX;  
MATCH; KEY; VALUE; PAIR; ASSOCIATE; QUERY; MESSAGE  
Derwent Class: T01; W01  
International Patent Class (Main): G06F-015/16  
File Segment: EPI

3/5/7 (Item 3 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

016032907 \*\*Image available\*\*  
WPI Acc No: 2004-190758/200418  
Related WPI Acc No: 2004-190742; 2004-190821  
XRPX Acc No: N04-151409

Peer-to-peer network system has module implementation advertisements  
describing particular module implementation of corresponding module  
specification which is configured to execute within particular execution  
environment

Patent Assignee: ABDELAZIZ M M (ABDE-I); DUIGOU M J (DUIG-I); HUGLY J  
(HUGL-I); POUYOUL E (POUY-I); TRAVERSAT B A (TRAV-I)  
Inventor: ABDELAZIZ M M ; DUIGOU M J; HUGLY J; POUYOUL E; TRAVERSAT B A  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040030794	A1	20040212	US 2002401928	P	20020808	200418 B
			US 2003370816	A	20030220	

Priority Applications (No Type Date): US 2002401928 P 20020808; US  
2003370816 A 20030220

Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
US 20040030794 A1 87 G06F-015/16 Provisional application US 2002401928

Abstract (Basic): US 20040030794 A1

NOVELTY - The system has module specification identifiers for  
specifying expected on-wire behavior and network protocols for a  
particular class of software module, and module implementation  
advertisements for describing a particular module implementation of a  
corresponding module specification. Each module specification is  
configured to execute within a particular execution environment.

DETAILED DESCRIPTION - Each module specification identifier  
uniquely identifies a module specification of the class of software  
module which is provided by the peer nodes coupled to a network. A  
module class identifier uniquely identifies the class of software  
module. INDEPENDENT CLAIMS are included for the following:

(1) Multiplatform implementation of an abstract software module;  
and

(2) Computer-accessible medium storing program instructions for  
multiplatform implementation of an abstract software module.

USE - For multiplatform implementation of abstract software modules  
in peer-to-peer network environments.

ADVANTAGE - Allows software modules to be initially located by  
specification for a particular class of functionality rather than  
having to search through many implementation advertisements of software  
modules to find a desired implementation of a specification, preferably  
making the discovery process simpler. Provides user defined services  
such as efficient long-distance peer lookup and rendezvous using peer  
naming and discovery service, simple, low-cost information search and  
indexing using content sharing service, interoperability with existing  
centralized networking infrastructure and security authorities in  
corporate, public, private or university networks using administration  
services, resolver service implemented to find active and inactive  
service instances and FTP service allowing file transfers among peers  
over pipes using FTP.

DESCRIPTION OF DRAWING(S) - The figure shows a network with a peer  
node including a module advertisement and identifier generator.



pp; 87 DwgNo 5/46  
Title Terms: PEER; PEER; NETWORK; SYSTEM; MODULE; IMPLEMENT; ADVERTISE;  
DESCRIBE; MODULE; IMPLEMENT; CORRESPOND; MODULE; SPECIFICATION;  
CONFIGURATION; EXECUTE; EXECUTE; ENVIRONMENT  
Derwent Class: T01  
International Patent Class (Main): G06F-015/16  
File Segment: EPI

3/5/8 (Item 4 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

016032891 \*\*Image available\*\*  
WPI Acc No: 2004-190742/200418  
Related WPI Acc No: 2004-190758; 2004-190821  
XRPX Acc No: N04-151393

Peer-to-peer network system for describing and identifying abstract  
software modules in peer-to-peer network environments, has module  
specification identifiers that each uniquely identifies module  
specification of a class of software module  
Patent Assignee: ABDELAZIZ M M (ABDE-I); DUIGOU M J (DUIG-I); HUGLY J  
(HUGL-I); POUYOUL E (POUY-I); TRAVERSAT B A (TRAV-I)  
Inventor: ABDELAZIZ M M ; DUIGOU M J; HUGLY J; POUYOUL E; TRAVERSAT B A  
Number of Countries: 001 Number of Patents: 001  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
US 20040030743 A1 20040212 US 2002401928 P 20020808 200418 B  
US 2003369950 A 20030220

Priority Applications (No Type Date): US 2002401928 P 20020808; US  
2003369950 A 20030220  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
US 20040030743 A1 92 G06F-015/16 Provisional application US 2002401928

Abstract (Basic): US 20040030743 A1

NOVELTY - The system has one or more module specification  
identifiers that each uniquely identify the module specification of a  
class of software module. Each module specification includes an  
indication of the expected on-wire behavior and network protocols for a  
particular class of software module.

DETAILED DESCRIPTION - A module class advertisement for the class  
of software module defines the local behavior and application  
programming interface (API) for each of the peer-to-peer bindings that  
supports the class of software module. The module class advertisement  
includes a module class identifier that uniquely identifies the class  
of software module. The class of software module is provided by the  
peer nodes coupled to a network.

INDEPENDENT CLAIMS are included for the following:  
(1) Describing and identifying abstract software modules; and  
(2) Computer-accessible medium storing program instructions for  
describing and identifying abstract software modules.

USE - For describing and identifying abstract software modules in  
peer-to-peer network environments.

ADVANTAGE - Improves performance of information discovery, content  
delivery and information processing, and enhances the overall  
reliability and fault-tolerance of computing systems. Identifies  
software modules that provide one or more implementations of a given  
functionality using various protocols and behaviors while retaining a  
common programming interface. Identifies software modules that provide  
one or more different network-compatible implementations for different  
execution environments. Provides information about programming  
interface and functionality of software modules independently of  
protocols and behaviors that may be used to implement the software  
modules.

DESCRIPTION OF DRAWING(S) - The figure shows a network with a peer

node including a module advertisement and identifier generator.  
pp; 92 DwgNo 5/46  
Title Terms: PEER; PEER; NETWORK; SYSTEM; DESCRIBE; IDENTIFY; ABSTRACT;  
SOFTWARE; MODULE; PEER; PEER; NETWORK; ENVIRONMENT; MODULE; SPECIFICATION  
; IDENTIFY; UNIQUE; IDENTIFY; MODULE; SPECIFICATION; CLASS; SOFTWARE;  
MODULE  
Derwent Class: T01  
International Patent Class (Main): G06F-015/16  
File Segment: EPI

3/5/9 (Item 5 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015766797 \*\*Image available\*\*  
WPI Acc No: 2003-828999/200377  
Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;  
2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-055779;  
2002-226664; 2002-256546; 2002-256547; 2002-256548; 2002-256553;  
2002-256554; 2002-256557; 2002-256558  
XRPX Acc No: N03-662298

Document searching method for personal digital assistant, involves  
transmitting lookup message comprising set of discovered XML  
advertisements, to client through network  
Patent Assignee: SUN MICROSYSTEMS INC (SUNM )  
Inventor: ABDELAZIZ M M ; DUIGOU M J; SAULPAUGH T E ; SLAUGHTER G L ;  
TRAVERSAT B A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6643650	B1	20031104	US 2000202975	P	20000509	200377 B
			US 2000208011	P	20000526	
			US 2000209140	P	20000602	
			US 2000209430	P	20000602	
			US 2000209525	P	20000605	
			US 2000660548	A	20000912	

Priority Applications (No Type Date): US 2000660548 A 20000912; US  
2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602  
; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6643650	B1	101	G06F-017/30		Provisional application US 2000202975 Provisional application US 2000208011 Provisional application US 2000209140 Provisional application US 2000209430 Provisional application US 2000209525

Abstract (Basic): US 6643650 B1

NOVELTY - A lookup message specifying desired characteristics of  
XML advertisement (132) comprising information about access of  
particular service (112), is transmitted to a space (114), through  
network. A set of discovered XML advertisements comprising transmitted  
advertisements having desired characteristics, is determined. The  
look-up message comprising set of discovered advertisements, is  
transmitted to a client (110).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
following:

- (1) document searching system; and
- (2) carrier medium storing document searching program

USE - For searching documents in computing devices such as personal  
digital assistant, mobile phone, notebook computer, laptop computer,  
desktop computer, workstation, mainframe computer and super computer.

ADVANTAGE - Enables transmitting the lookup messages comprising  
desired XML advertisement, easily and reliably.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of

the document searching system.

client (110)  
service (112)  
space (114)  
XML advertisement (132)  
pp; 101 DwgNo 8/48

Title Terms: DOCUMENT; SEARCH; METHOD; PERSON; DIGITAL; ASSIST; TRANSMIT;  
MESSAGE; COMPRISE; SET; DISCOVER; ADVERTISE; CLIENT; THROUGH; NETWORK

Derwent Class: T01

International Patent Class (Main): G06F-017/30

International Patent Class (Additional): G06F-015/00 ; G06F-017/60

File Segment: EPI

3/5/10 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014708484 \*\*Image available\*\*

WPI Acc No: 2002-529188/200256

Related WPI Acc No: 2003-405304

XRPX Acc No: N02-419099

**Peer computing system for peer-to-peer networking has at least a subset  
of the peer nodes configured to participate in a peer discovery protocol  
to discover other peer nodes**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM ); ABDELAZIZ M M (ABDE-I);  
CLARY M J (CLAR-I); DUIGOU M J (DUIG-I); GONG L (GONG-I); HUGLY J  
(HUGL-I); JOY W N (JOYW-I); POUYOUL E (POUY-I); TRAVERSAT B A (TRAV-I);  
YEAGER W J (YEAG-I); PABLA K (PABL-I); SAULPAUGH T E (SAUL-I); SLAUGHTER  
G L (SLAU-I); CHEN R Y (CHEN-I)

Inventor: ABDELAZIZ M M ; CLARY M J; DUIGOU M J; GONG L; HUGLY J; JOY W N;  
POUYOUL E; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A ; YEAGER W J;  
PABLA K; SAULPAUGH ; CHEN R Y

Number of Countries: 101 Number of Patents: 020

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200257917	A2	20020725	WO 2002US1362	A	20020118	200256 B
EP 1229442	A2	20020807	EP 2002250431	A	20020122	200259
EP 1229443	A2	20020807	EP 2002250432	A	20020122	200259
US 20020143855	A1	20021003	US 2001263573	P	20010122	200267
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255097	A	20020122	
US 20020143944	A1	20021003	US 2001263573	P	20010122	200267
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200254809	A	20020122	
US 20020147771	A1	20021010	US 2001263573	P	20010122	200269
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255773	A	20020122	
US 20020147810	A1	20021010	US 2001263573	P	20010122	200269
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255741	A	20020122	
US 20020152299	A1	20021017	US 2001263573	P	20010122	200270
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255650	A	20020122	
US 20020156893	A1	20021024	US 2001263573	P	20010122	200273
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	

			US 2001308932	P	20010731	
			US 200254809	A	20020122	
			US 200255547	A	20020122	
			US 200255641	A	20020122	
			US 200255645	A	20020122	
			US 200255662	A	20020122	
			US 200255741	A	20020122	
			US 200255773	A	20020122	
			US 2002164259	A	20020605	
US 20020184310	A1	20021205	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255547	A	20020122	
US 20020184311	A1	20021205	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255645	A	20020122	
US 20020184357	A1	20021205	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255641	A	20020122	
US 20020184358	A1	20021205	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255662	A	20020122	
US 20020188657	A1	20021212	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255666	A	20020122	
US 20030002521	A1	20030102	US 2001263573	P	20010122	200305
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255649	A	20020122	
US 20030041141	A1	20030227	US 2001263573	P	20010122	200318
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255662	A	20020122	
			US 200255666	A	20020122	
			US 200255741	A	20020122	
			US 2002164259	A	20020605	
			US 2002263923	A	20021003	
US 20030055894	A1	20030320	US 2001308932	P	20010731	200323
			US 2002165244	A	20020607	
US 20030055898	A1	20030320	US 2001308932	P	20010731	200323
			US 2002165330	A	20020607	
US 20030070070	A1	20030410	US 2001308932	P	20010731	200327
			US 2002165019	A	20020607	
AU 2002234258	A1	20020730	AU 2002234258	A	20020118	200427

Priority Applications (No Type Date): US 2001308932 P 20010731; US 2001263573 P 20010122; US 2001268893 P 20010214; US 2001286225 P 20010424; US 200255097 A 20020122; US 200254809 A 20020122; US 200255773 A 20020122; US 200255741 A 20020122; US 200255650 A 20020122; US 200255547 A 20020122; US 200255641 A 20020122; US 200255645 A 20020122; US 200255662 A 20020122; US 2002164259 A 20020605; US 200255666 A 20020122; US 200255649 A 20020122; US 2002263923 A 20021003; US 2002165244 A 20020607; US 2002165330 A 20020607; US 2002165019 A 20020607

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200257917	A2	E	90	G06F-009/46	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA  
ZM ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

EP 1229442 A2 E G06F-009/46

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

EP 1229443 A2 E G06F-009/46

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

US 20020143855 A1 G06F-015/16 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020143944 A1 G06F-015/173 Provisional application US 2001263573

Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020147771 A1 G06F-015/16 Provisional application US 2001263573

Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020147810 A1 G06F-015/173 Provisional application US 2001263573

Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020152299 A1 G06F-015/173 Provisional application US 2001263573

Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020156893 A1 G06F-015/173 Provisional application US 2001263573

Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932  
CIP of application US 200254809  
CIP of application US 200255547  
CIP of application US 200255641  
CIP of application US 200255645  
CIP of application US 200255662  
CIP of application US 200255741  
CIP of application US 200255773

US 20020184310 A1 G06F-015/16 Provisional application US 2001263573

Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020184311 A1 G06F-015/16 Provisional application US 2001263573

Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020184357 A1 G06F-015/173 Provisional application US 2001263573

Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020184358 A1 G06F-015/173 Provisional application US 2001263573

Provisional application US 2001268893

		Provisional application US 2001286225
		Provisional application US 2001308932
US 20020188657 A1	G06F-015/16	Provisional application US 2001263573
		Provisional application US 2001268893
		Provisional application US 2001286225
		Provisional application US 2001308932
US 20030002521 A1	H04J-003/16	Provisional application US 2001263573
		Provisional application US 2001268893
		Provisional application US 2001286225
		Provisional application US 2001308932
US 20030041141 A1	G06F-015/173	Provisional application US 2001263573
		Provisional application US 2001268893
		Provisional application US 2001286225
		Provisional application US 2001308932
		CIP of application US 200255662
		CIP of application US 200255666
		CIP of application US 200255741
		CIP of application US 2002164259
US 20030055894 A1	G06F-015/16	Provisional application US 2001308932
US 20030055898 A1	G06F-015/16	Provisional application US 2001308932
US 20030070070 A1	H04L-009/00	Provisional application US 2001308932
AU 2002234258 A1	G06F-009/46	Based on patent WO 200257917

Abstract (Basic): WO 200257917 A2

NOVELTY - The system includes several peer nodes. At least a subset of the peer nodes are configured to participate in a peer discovery protocol to discover other peer nodes. At least a subset of the peer nodes are configured to participate in a peer membership protocol for joining or forming a peer group with other peer nodes.

The member peer nodes in the peer group are configured to find and exchange content in the peer group.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for an article manufacture, for a method of discovering peer nodes on a peer-to-peer network and for a carrier medium.

USE - For peer-to-peer networking.

ADVANTAGE - Provides mechanisms through which peers may discover each other, communicate with each other and cooperate with each other to form peer groups.

DESCRIPTION OF DRAWING(S) - The figure shows peer-to-peer platform software architecture.

pp; 90 DwgNo 29/32

Title Terms: PEER; COMPUTATION; SYSTEM; PEER; PEER; SUBSET; PEER; NODE; CONFIGURATION; PARTICIPATING; PEER; DISCOVER; PROTOCOL; DISCOVER; PEER; NODE

Derwent Class: T01; W01

International Patent Class (Main): G06F-009/46 ; G06F-015/16 ;

G06F-015/173 ; H04J-003/16; H04L-009/00

International Patent Class (Additional): G06F-017/60 ; H04L-012/56

File Segment: EPI

3/5/11 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014435855 \*\*Image available\*\*

WPI Acc No: 2002-256558/200230

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;

2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-055779;

2002-226664; 2002-256546; 2002-256547; 2002-256548; 2002-256553;

2002-256554; 2002-256557; 2003-828999

· XRPX Acc No: N02-198551

**Process state representation method in data-representation language in distributed computing environment, involves converting computation state of specific process into data-representation language representation**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186440	A2	20011115	WO 2001US15132	A	20010509	200230 B
AU 200161386	A	20011120	AU 200161386	A	20010509	200230
EP 1309915	A2	20030514	EP 2001935278	A	20010509	200333
			WO 2001US15132	A	20010509	
JP 2003534588	W	20031118	JP 2001583322	A	20010509	200401
			WO 2001US15132	A	20010509	
EP 1309915	B1	20040310	EP 2001935278	A	20010509	200418
			WO 2001US15132	A	20010509	
DE 60102305	E	20040415	DE 602305	A	20010509	200426
			EP 2001935278	A	20010509	
			WO 2001US15132	A	20010509	

Priority Applications (No Type Date): US 2000663564 A 20000915; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602 ; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186440 A2 E 161 G06F-009/46

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200161386 A Based on patent WO 200186440

EP 1309915 A2 E G06F-009/50 Based on patent WO 200186440

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003534588 W 282 G06F-009/46 Based on patent WO 200186440

EP 1309915 B1 E G06F-009/50 Based on patent WO 200186440

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DE 60102305 E G06F-009/50 Based on patent EP 1309915  
Based on patent WO 200186440

Abstract (Basic): WO 200186440 A2

NOVELTY - The computation state of a process, comprising information about the execution state of the process in a device, is converted into a data-representation language representation and is stored, for reconstituting and resuming execution of the process.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Distributed computing system;

(b) Carrier medium storing process state representation program

USE - For representing process state of processes executed in a virtual machine of a distributed computing environment consisting smart appliances, personal digital assistants (PDA), cell phones, laptop computers, workstations, main frame and super computers, etc., using data-representation language representations.

ADVANTAGE - Enables transmission of messages asynchronously by embedding representations of any process state in the message stream between sender and receiver, thereby avoids need of TCPs and limits errors. Enables participation of thin clients, having low capabilities of computing and storing, also in the distributed computing environment by adding a thin messaging layer above a basic networking stack. Enables resource and trigger flow control by service side gate, by stopping or sending messages to the paired destination gate depending on the tags included in the messages representing resource/trigger

conditions. Authenticates messages by comparing authentication credential embedded in the message with that included in the gate. Checks integrity of messages using cyclic redundancy checking (CRC) method by applying n-bit polynomial to the message and appending the resulting CRC to the message.

DESCRIPTION OF DRAWING(S) - The figure shows the illustration of process state representation method.

pp; 161 DwgNo 37/48

Title Terms: PROCESS; STATE; REPRESENT; METHOD; DATA; REPRESENT; LANGUAGE; DISTRIBUTE; COMPUTATION; ENVIRONMENT; CONVERT; COMPUTATION; STATE; SPECIFIC; PROCESS; DATA; REPRESENT; LANGUAGE; REPRESENT

Derwent Class: T01; W01

International Patent Class (Main): G06F-009/46 ; G06F-009/50

International Patent Class (Additional): G06F-009/44 ; G06F-015/16 ;

G06F-015/177

File Segment: EPI

3/5/12 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014435845 \*\*Image available\*\*

WPI Acc No: 2002-256548/200230

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;

2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-055779;

2002-226664; 2002-256546; 2002-256547; 2002-256553; 2002-256554;

2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-198541

Remote service function invocation method for distributed computing environment, involves examining whether credential of message is authentic based on which service is functioned on behalf of client

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: DUIGOU M J; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186395	A2	20011115	WO 2001US15277	A	20010509	200230 B
AU 200163065	A	20011120	AU 200163065	A	20010509	200230
EP 1285323	A2	20030226	EP 2001937316	A	20010509	200319
			WO 2001US15277	A	20010509	
JP 2004504657	W	20040212	JP 2001583282	A	20010509	200413
			WO 2001US15277	A	20010509	

Priority Applications (No Type Date): US 2000672145 A 20000927; US

2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602

; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186395 A2 E 163 G06F-001/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200163065 A G06F-001/00 Based on patent WO 200186395

EP 1285323 A2 E G06F-001/00 Based on patent WO 200186395

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2004504657 W 311 G06F-009/44 Based on patent WO 200186395

Abstract (Basic): WO 200186395 A2

NOVELTY - A data representation language message including a credential for allowing a client to access a service that functions on behalf of the clients in the distributed computing environment, is generated by the client. The message is examined to determine whether



the credential is authentic based on which service is functioned on behalf of the client.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Distributed computing system;
- (b) Remote invocation device;
- (c) Recording medium which stores program for remote invocation in distributed computing environment

USE - For remote invocation of function of service in distributed computing environment using personal digital assistants (PDAs), cell phones, laptop computers, desktop computers, workstations, main frame and supercomputers.

ADVANTAGE - Allows bidirectional remote invocations from client to service and from service to client.

DESCRIPTION OF DRAWING(S) - The figure illustrates the remote service function invocation method in a distributed computing environment.

pp; 163 DwgNo 14/48

Title Terms: REMOTE; SERVICE; FUNCTION; METHOD; DISTRIBUTE; COMPUTATION;

ENVIRONMENT; MESSAGE; AUTHENTICITY; BASED; SERVICE; CLIENT

Derwent Class: T01; W01

International Patent Class (Main): G06F-001/00 ; G06F-009/44

International Patent Class (Additional): G06F-009/46 ; G06F-015/00

File Segment: EPI

3/5/13 (Item 9 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014235081 \*\*Image available\*\*

WPI Acc No: 2002-055779/200207

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;

2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-226664;

2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;

2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-041060

**Method for remotely invoking functions in heterogeneous distributed computing environment, involves sending message containing computer programming language method call to service performing function on behalf of client**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200190883	A2	20011129	WO 2001US15120	A	20010509	200207 B
AU 200163036	A	20011203	AU 200163036	A	20010509	200221
EP 1314085	A2	20030528	EP 2001937284	A	20010509	200336
			WO 2001US15120	A	20010509	
JP 2003534597	W	20031118	JP 2001587207	A	20010509	200401
			WO 2001US15120	A	20010509	

Priority Applications (No Type Date): US 2000672200 A 20000927; US

2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602

; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200190883 A2 E 159 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200163036 A G06F-009/00 Based on patent WO 200190883

EP 1314085 A2 E G06F-009/00 Based on patent WO 200190883  
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR  
JP 2003534597 W 287 G06F-009/44 Based on patent WO 200190883

Abstract (Basic): WO 200190883 A2

NOVELTY - A client generates and transmits message which includes information representing a computer programming language method call, to a service. The service performs function on behalf of the client according to the information representing the method call included in the transmitted message.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Distributed computing system;
- (b) Functions remotely invoking device;
- (c) Recorded medium storing computer executable program instructions

USE - For remotely invoking functions in heterogeneous distributed computing environment including web-centric and Internet-centric distributed computing environments.

ADVANTAGE - Enables the clients to find transient documents and services by providing a mechanism to find general purpose documents which are expressed in a platform-independent and language-independent typing such as that provided by XML. Allows remote Java objects to behave as local Java object by provision of method gates. Enables clients to invoke computer programming language method on a service without actually generating computer programming language method call.

DESCRIPTION OF DRAWING(S) - The figure illustrates the use of method gate to provide a remote method invocation interface to a service.

pp; 159 DwgNo 14/48

Title Terms: METHOD; REMOTE; INVOKE; FUNCTION; HETEROGENEOUS; DISTRIBUTE; COMPUTATION; ENVIRONMENT; SEND; MESSAGE; CONTAIN; COMPUTER; PROGRAM; LANGUAGE; METHOD; CALL; SERVICE; PERFORMANCE; FUNCTION; CLIENT

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-009/44

International Patent Class (Additional): G06F-009/46 ; G06F-015/16

File Segment: EPI

3/5/14 (Item 10 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014213959 \*\*Image available\*\*

WPI Acc No: 2002-034657/200204

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034658; 2002-034659;  
2002-034661; 2002-041620; 2002-041621; 2002-055779; 2002-226664;  
2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;  
2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-026642

Computing environment bridging method for client service application, involves accessing proxy service that provides interface to entity in accessed environment

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; DUIGOU M J; SAULPAUGH T E ; SLAUGHTER G L ;

TRAVERSAT B A

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186422	A2	20011115	WO 2001US15133	A	20010509	200204 B
AU 200161387	A	20011120	AU 200161387	A	20010509	200219
EP 1384142	A2	20040128	EP 2001935279	A	20010509	200409
			WO 2001US15133	A	20010509	
JP 2004515833	W	20040527	JP 2001583304	A	20010509	200435
			WO 2001US15133	A	20010509	

Priority Applications (No Type Date): US 2000693672 A 20001019; US  
2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602  
; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186422 A2 E 183 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200161387 A Based on patent WO 200186422

EP 1384142 A2 E G06F-009/00 Based on patent WO 200186422

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
LU MC NL PT SE TR

JP 2004515833 W 358 G06F-013/00 Based on patent WO 200186422

Abstract (Basic): WO 200186422 A2

NOVELTY - A proxy service is accessed by an entity of one of the  
bridged computing environment through messages in a data representation  
language. An interface to another entity in another computing  
environment, is provided by the proxy service.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
following:

(a) Distributed computing system;

(b) Recording medium storing computing environment bridging program

USE - For bridging foreign clients, services, devices and  
transports such as smart appliances, personal digital assistants  
(PDAs), cell phones, lap top computers, desktop computers, mainframes  
and super computers, etc., in distributed computing environment. For  
finding and invoking distributed application or services based on  
physical location of clients.

ADVANTAGE - Enables large number of heterogeneous network devices  
of different capabilities to work together in reliable, dynamic and  
secure fashion. Enables changing display according to particular  
presentation schema that may be dynamically changed without requiring a  
rebuild of the application. Authorizes access to user through messages  
that contain embedded information of creator and access levels allowed  
for the object and thereby provides efficient security for services.  
Provides a mobile client device with the distributed application within  
a specified space range automatically using global positioning system  
(GPS) capabilities.

DESCRIPTION OF DRAWING(S) - The figure shows an illustration of the  
bridging mechanism of the bridging method.

pp; 183 DwgNo 27/57

Title Terms: COMPUTATION; ENVIRONMENT; BRIDGE; METHOD; CLIENT; SERVICE;

APPLY; ACCESS; SERVICE; INTERFACE; ENTITY; ACCESS; ENVIRONMENT

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-013/00

International Patent Class (Additional): G06F-009/44 ; G06F-009/46 ;

G06F-015/16 ; G06F-015/177

File Segment: EPI

3/5/15 (Item 11 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014213958 \*\*Image available\*\*

WPI Acc No: 2002-034656/200204

Related WPI Acc No: 2002-034655; 2002-034657; 2002-034658; 2002-034659;

2002-034661; 2002-041620; 2002-041621; 2002-055779; 2002-226664;

2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;

2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-026641

Service accessing and addressing method in distributed computing

environment, involves using URI and schema to specify network address to access service and message to invoke service function respectively

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186420	A2	20011115	WO 2001US15044	A	20010509	200204 B
AU 200164577	A	20011120	AU 200164577	A	20010509	200219
EP 1285334	A2	20030226	EP 2001939009	A	20010509	200319
			WO 2001US15044	A	20010509	
JP 2003533766	W	20031111	JP 2001583302	A	20010509	200375
			WO 2001US15044	A	20010509	
EP 1285334	B1	20040128	EP 2001939009	A	20010509	200410
			WO 2001US15044	A	20010509	
DE 60101911	E	20040304	DE 601911	A	20010509	200419
			EP 2001939009	A	20010509	
			WO 2001US15044	A	20010509	

Priority Applications (No Type Date): US 2000660563 A 20000912; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602 ; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186420 A2 E 151 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200164577 A Based on patent WO 200186420

EP 1285334 A2 E G06F-009/00 Based on patent WO 200186420

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003533766 W 270 G06F-013/00 Based on patent WO 200186420

EP 1285334 B1 E G06F-009/00 Based on patent WO 200186420

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DE 60101911 E G06F-009/00 Based on patent EP 1285334  
Based on patent WO 200186420

Abstract (Basic): WO 200186420 A2

NOVELTY - A client (110) reads advertisement (132) from space (114) comprising a network-addressable storage location. The advertisement comprises uniform resource identifier (URI) specifying network address to access a service (112) and schema, specifying messages usable to invoke service functions. A client sends a message specified in schema to the service at the URI.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Distributed computing environment service accessing system;

(b) Recording medium storing program of service accessing

USE - For accessing and addressing services in distributed computing environment such as to locate information about restaurant, weather, maps, traffic, movie information, shopping mall etc.

ADVANTAGE - Service discovery mechanism provides flexible search criteria. Client presents to the service a set of desired capabilities on form of protected and secure advertisement.

DESCRIPTION OF DRAWING(S) - The figure shows a distributed computing model in which services are advertised in spaces.

Client (110)

Service (112)

Space (114)

Advertisement (132)

pp; 151 DwgNo 8/48

Title Terms: SERVICE; ACCESS; ADDRESS; METHOD; DISTRIBUTE; COMPUTATION;  
ENVIRONMENT; SPECIFIED; NETWORK; ADDRESS; ACCESS; SERVICE; MESSAGE;  
INVOKE; SERVICE; FUNCTION; RESPECTIVE  
Derwent Class: T01  
International Patent Class (Main): G06F-009/00 ; G06F-013/00  
International Patent Class (Additional): G06F-012/00 ; G06F-015/16  
File Segment: EPI

3/5/16 (Item 12 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014213957 \*\*Image available\*\*

WPI Acc No: 2002-034655/200204

Related WPI Acc No: 2002-034656; 2002-034657; 2002-034658; 2002-034659;  
2002-034661; 2002-041620; 2002-041621; 2002-055779; 2002-226664;  
2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;  
2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-026640

Service finding method in distributed computing environment, involves  
comparing search criteria with advertisement to find advertisement match  
with search criteria

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; DUIGOU M J; SAULPAUGH T E ; SLAUGHTER G L ;

TRAVERSAT B A

Number of Countries: 094 Number of Patents: 012

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186419	A2	20011115	WO 2001US14972	A	20010509	200204 B
AU 200161315	A	20011120	AU 200161315	A	20010509	200219
AU 200163036	A	20011203	AU 200163036	A	20010509	200221
EP 1290547	A2	20030312	EP 2001937315	A	20010509	200320
			WO 2001US15276	A	20010509	
JP 2003533766	W	20031111	JP 2001583302	A	20010509	200375
			WO 2001US15044	A	20010509	
JP 2003533767	W	20031111	JP 2001583309	A	20010509	200375
			WO 2001US15276	A	20010509	
JP 2003534588	W	20031118	JP 2001583322	A	20010509	200401
			WO 2001US15132	A	20010509	
JP 2003534597	W	20031118	JP 2001587207	A	20010509	200401
			WO 2001US15120	A	20010509	
EP 1384142	A2	20040128	EP 2001935279	A	20010509	200409
			WO 2001US15133	A	20010509	
EP 1380941	A2	20040114	EP 2001937315	A	20010509	200410
			EP 200321805	A	20010509	
EP 1309915	B1	20040310	EP 2001935278	A	20010509	200418
			WO 2001US15132	A	20010509	
JP 2004515833	W	20040527	JP 2001583304	A	20010509	200435
			WO 2001US15133	A	20010509	

Priority Applications (No Type Date): US 2000653608 A 20000831; US  
2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602  
; US 2000209430 P 20000602; US 2000209525 P 20000605; US 2000672200 A  
20000927; US 2000663563 A 20000915; US 2000660563 A 20000912; US  
2000663564 A 20000915; US 2000693672 A 20001019

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186419 A2 E 141 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200161315 A

Based on patent WO 200186419

AU 200163036 A

Based on patent WO 200190883

EP 1290547 A2 E G06F-009/00 Based on patent WO 200186427  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE SI TR  
 JP 2003533766 W 270 G06F-013/00 Based on patent WO 200186420  
 JP 2003533767 W 289 G06F-009/44 Based on patent WO 200186427  
 JP 2003534588 W 282 G06F-009/46 Based on patent WO 200186440  
 JP 2003534597 W 287 G06F-009/44 Based on patent WO 200190883  
 EP 1384142 A2 E G06F-009/00 Based on patent WO 200186422  
 Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
 LU MC NL PT SE TR  
 EP 1380941 A2 E G06F-009/44 Div ex application EP 2001937315  
 Div ex patent EP 1290547  
 Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
 LU MC NL PT SE TR  
 EP 1309915 B1 E G06F-009/50 Based on patent WO 200186440  
 Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
 LU MC NL PT SE TR  
 JP 2004515833 W 358 G06F-013/00 Based on patent WO 200186422

Abstract (Basic): WO 200186419 A2

NOVELTY - A search message in a data representational language including a search criteria is sent. The search criteria is compared with the service advertisement, to find advertisements that match the search criteria. The advertisements in the data representational language provides access information for corresponding services. The client receives response advertisements that match search criteria.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Distributed computing system;

(b) Service finding system

USE - For searching services in distributed computing environment to locate information about restaurants, weather, map, traffic, movie, library, shopping mall, etc.

ADVANTAGE - Allows client devices to connect to distributed computing environment and services and/or data in local environment. Publishing a protected advertisement, forces the client to obtain a valid credential from an authentication service before receiving the complete un-protected advertisement from the service provider.

DESCRIPTION OF DRAWING(S) - The figure shows the flow chart for location of service advertisement.

pp; 141 DwgNo 42/45

Title Terms: SERVICE; FINDER; METHOD; DISTRIBUTE; COMPUTATION; ENVIRONMENT;  
 COMPARE; SEARCH; CRITERIA; ADVERTISE; FINDER; ADVERTISE; MATCH; SEARCH;  
 CRITERIA

Derwent Class: T01; W01

International Patent Class (Main): G06F-009/00 ; G06F-009/44 ;  
 G06F-009/46 ; G06F-009/50 ; G06F-013/00

International Patent Class (Additional): G06F-009/45 ; G06F-012/00 ;  
 G06F-015/16 ; G06F-015/177

File Segment: EPI

3/5/17 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

013516605 \*\*Image available\*\*

WPI Acc No: 2001-000811/200101

Related WPI Acc No: 2000-073996; 2000-671837; 2002-433541

XRPX Acc No: N01-000644

Data format for exchanging data between a Java system database entry and a network directory service in a client-server application

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: SAULPAUGH T ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 026 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
-----------	------	------	-------------	------	------	------

EP 1039380 A2 20000927 EP 2000300189 A 20000112 200101 B  
JP 2000311123 A 20001107 JP 200022256 A 20000131 200106

Priority Applications (No Type Date): US 99239596 A 19990129

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 1039380 A2 E 27 G06F-009/445

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI

JP 2000311123 A 71 G06F-013/00

Abstract (Basic): EP 1039380 A2

NOVELTY - The system-wide data scheme is implemented as a Java system database (301) consisting of a client schema (303) residing on a client machine (305) as part of a network (307) and a Java system database server schema (311) residing on a server computer (309). The Java system database server schema communicates with a lightweight directory access protocol.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for an extension to a directory service, for a method of sending data from a network directory service, for a method of retrieving data from a server and for a computer program product.

USE - Transfer and arrangement of configuration data among computers of storage areas in a computer network.

ADVANTAGE - Minimizing overhead processing which is transparent to client computers.

DESCRIPTION OF DRAWING(S) - The drawing is a schematic diagram of a communication network with a system-wide data schema according to one embodiment of the invention

Java system database (301)

Client schema (303)

Client machine (305)

Network (307)

Java server database server schema (311)

pp; 27 DwgNo 3/12

Title Terms: DATA; FORMAT; EXCHANGE; DATA; SYSTEM; DATABASE; ENTER; NETWORK ; DIRECTORY; SERVICE; CLIENT; SERVE; APPLY

Derwent Class: T01

International Patent Class (Main): G06F-009/445 ; G06F-013/00

International Patent Class (Additional): G06F-012/00 ; G06F-015/00 ;

G06F-017/30 ; H04L-029/06

File Segment: EPI

3/5/18 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012934680 \*\*Image available\*\*

WPI Acc No: 2000-106527/200009

XRPX Acc No: N00-081833

**Computer-implemented method for allocating memory of computer to platform-independent device driver**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: SAULPAUGH T E ; SCHMIDT J A ; SLAUGHTER G L ; TRAVERSAT B A ;

SAULPAUGH T ; TRAVERSAT B

Number of Countries: 086 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200000901	A1	20000106	WO 99US14759	A	19990629	200009 B
AU 9948460	A	20000117	AU 9948460	A	19990629	200026
EP 1010087	A1	20000621	EP 99932069	A	19990629	200033
			WO 99US14759	A	19990629	
US 6202146	B1	20010313	US 98106910	A	19980629	200120
US 6434694	B1	20020813	US 98106912	A	19980629	200255

Priority Applications (No Type Date): US 98106912 A 19980629; US 98106910 A

19980629

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200000901 A1 E 43 G06F-013/10

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN  
CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK  
SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9948460 A G06F-013/10 Based on patent WO 200000901

EP 1010087 A1 E G06F-013/10 Based on patent WO 200000901

Designated States (Regional): DE FR GB

US 6202146 B1 G06F-009/00

US 6434694 B1 G06F-009/00

Abstract (Basic): WO 200000901 A1

NOVELTY - A memory allocation request is generated using a platform-independent device driver (216), and then passed to bus manager (228). The device driver identity is verified. In response to memory allocation request, an inner class representation of the bus manager is generated. The inner class representation provides at least the same memory request processing methods as the bus manager.

DETAILED DESCRIPTION - The memory allocation request is processed using the inner class representation of the bus manager, to allocate memory for the device driver. The real addresses of the allocated memory are passed to the device driver.

INDEPENDENT CLAIMS are also included for the following:

(a) an allocating apparatus of computer memory to platform-independent device driver;

(b) computer program for allocating memory resources in computer; and

(c) computer system for allocating memory to platform-independent device driver.

USE - For allocating memory of computer to platform-independent device driver that operates peripheral devices, such as keyboard, printer, scanner, network interface, graphic card, modem, monitor.

ADVANTAGE - Provides device driver which is capable of running on any platform, thus reducing cost and frustration associated with device driver management.

DESCRIPTION OF DRAWING(S) - The diagram illustrates an object-oriented operating system.

Platform-independent device driver (216)

Bus manager (228)

pp; 43 DwgNo 2/11

Title Terms: COMPUTER; IMPLEMENT; METHOD; ALLOCATE; MEMORY; COMPUTER;

PLATFORM; INDEPENDENT; DEVICE; DRIVE

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-013/10

International Patent Class (Additional): G06F-009/44 ; G06F-015/177

File Segment: EPI

3/5/19 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012902160 \*\*Image available\*\*

WPI Acc No: 2000-073996/200007

Related WPI Acc No: 2000-671837; 2001-000811; 2002-433541

XRPX Acc No: N00-057941

Method of multiple part process recording in configuration database

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: SAULPAUGH T ; SCHMIDT J A; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No Kind Date Applicat No Kind Date Week



DE 19926116	A1	19991230	DE 1026116	A	19990608	200007	B
GB 2341957	A	20000329	GB 9911496	A	19990518	200019	
GB 2341957	B	20000906	GB 9911496	A	19990518	200044	

Priority Applications (No Type Date): US 98107048 A 19980629

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

DE 19926116	A1		17	G06F-009/445	
-------------	----	--	----	--------------	--

GB 2341957	A			G06F-015/177	
------------	---	--	--	--------------	--

GB 2341957	B			G06F-015/177	
------------	---	--	--	--------------	--

Abstract (Basic): DE 19926116 A1

NOVELTY - The method involves receiving a database transaction containing specific database updates; inserting initial entry associated with transaction and containing transaction identifier into a record data set; entering subsequent entries to record data set corresponding to specific updates associated with transaction and containing transaction identifier and data for specific update.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for an arrangement for multiple part process recording of transactions in a configuration database, a computer-readable medium and a computer data signal incorporated into a carrier wave.

USE - For multiple part transaction process recording in a configuration database.

ADVANTAGE - Enables flexible recording of updatings and modifications of a configuration database and enables recovery of the database from failures of single transactions or the entire database.

DESCRIPTION OF DRAWING(S) - The drawing shows a flow diagram of a transaction that produces a record entry.

pp; 17 DwgNo 7/9

Title Terms: METHOD; MULTIPLE; PART; PROCESS; RECORD; CONFIGURATION; DATABASE

Derwent Class: T01

International Patent Class (Main): G06F-009/445 ; G06F-015/177

International Patent Class (Additional): G06F-011/14 ; G06F-017/30

File Segment: EPI

3/5/20 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012902159 \*\*Image available\*\*

WPI Acc No: 2000-073995/200007

XRPX Acc No: N00-057940

**Method of transaction handling in distributed configuration database**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: SAULPAUGH T ; SCHMIDT J A; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19926115	A1	19991230	DE 1026115	A	19990608	200007	B
GB 2341956	A	20000329	GB 9911489	A	19990518	200019	
US 6115715	A	20000905	US 98107043	A	19980629	200044	
GB 2341956	B	20010117	GB 9911489	A	19990518	200105	

Priority Applications (No Type Date): US 98107043 A 19980629

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

DE 19926115	A1		20	G06F-015/177	
-------------	----	--	----	--------------	--

GB 2341956	A			G06F-017/30	
------------	---	--	--	-------------	--

US 6115715	A			G06F-015/00	
------------	---	--	--	-------------	--

GB 2341956	B			G06F-017/30	
------------	---	--	--	-------------	--

Abstract (Basic): DE 19926115 A1

NOVELTY - The method involves receiving transactions initiated by an application via an interface with public and private segments and performing the transaction w.r.t. the configuration database. An event

notification manager sets transactions waiting for a block to be released into an alarm readiness if a block-hold transaction sends a message indicating that the block is to be released. An event queue stores data relating to and classified according to conducted transactions. The private segment of the transaction interface ensures that a transaction does not maintain a block for longer than necessary for that transaction.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for a method of updating a configuration database, a computer-readable medium and a computer data signal incorporated into a carrier wave.

USE - For transaction handling in distributed configuration database.

ADVANTAGE - Improved database updating is achieved with a new method and improved handling of transactions is achieved with a new method.

DESCRIPTION OF DRAWING(S) - The drawing shows a flow diagram illustrating two-phase blocking of an entry into a configuration database.

pp; 20 DwgNo 5/9

Title Terms: METHOD; TRANSACTION; HANDLE; DISTRIBUTE; CONFIGURATION;  
DATABASE  
Derwent Class: T01  
International Patent Class (Main): G06F-015/00 ; G06F-015/177 ;  
G06F-017/30  
File Segment: EPI

3/5/21 (Item 17 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012853517 \*\*Image available\*\*

WPI Acc No: 2000-025349/200003

XRPX Acc No: N00-019009

**Data network for storing data relating to computer network**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM ); INT BUSINESS MACHINES CORP (IBM )

Inventor: SAULPAUGH T ; SCHMIDT J A; SLAUGHTER G L ; TRAVERSAT B A ;  
TRACEY W J; WOODWARD S

Number of Countries: 027 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 957617	A2	19991117	EP 99303692	A	19990512	200003 B
US 6052720	A	20000418	US 9879500	A	19980514	200026
JP 2000122984	A	20000428	JP 99134685	A	19990514	200032
US 6161125	A	20001212	US 9879501	A	19980514	200067

Priority Applications (No Type Date): US 9879501 A 19980514; US 9879500 A 19980514

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

EP 957617	A2	E	28	H04L-029/06	
-----------	----	---	----	-------------	--

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI

US 6052720	A			G06F-013/00	
------------	---	--	--	-------------	--

JP 2000122984	A		70	G06F-015/177	
---------------	---	--	----	--------------	--

US 6161125	A			G06F-015/16	
------------	---	--	--	-------------	--

Abstract (Basic): EP 957617 A2

NOVELTY - A data schema having an n-way tree-type structure with a root node layer, intermediate node layers, and a data layer for storing configuration data is described. The intermediate node layers contain a multitude of nodes containing categorical information relating to components and various aspects of the computer network. Following a tree structure, each intermediate node and root node has branches emanating to nodes below it. These subordinate nodes are referred to as children nodes. The data node layer is at the bottom of the tree and

contains actual specific configuration data relating to components and other aspects of the computer network, such as information regarding users registered to use the network.

DETAILED DESCRIPTION - Certain portions of the intermediate nodes and data nodes make up persistent data spaces in which the actual specific configuration data in the data nodes is modified on either a client or a server computer, and is stored on the server computer.

USE - For storing data relating to computer network.

ADVANTAGE - System supports distributed management of client configurations information at a central repository. Allows a network user to log onto different clients and still be able to access that user's personal preferences and profiles on any client on the network.

DESCRIPTION OF DRAWING(S) - The figure shows a block diagram showing components of a computer network configuration showing a systemwide data scheme.

pp; 28 DwgNo 1/11

Title Terms: DATA; NETWORK; STORAGE; DATA; RELATED; COMPUTER; NETWORK

Derwent Class: T01; W01

International Patent Class (Main): G06F-013/00 ; G06F-015/16 ;

G06F-015/177 ; H04L-029/06

International Patent Class (Additional): G06F-009/06 ; G06F-017/30 ;

H04L-012/24

File Segment: EPI

3/5/22 (Item 18 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012843397

WPI Acc No: 2000-015229/200002

XRPX Acc No: N00-012001

Method of exchanging configuration data in a computer network

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: SAULPAUGH T ; SCHMIDT J A; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 027 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 957616	A2	19991117	EP 99303685	A	19990512	200002 B
JP 2000067022	A	20000303	JP 99134712	A	19990514	200023
US 6119157	A	20000912	US 9879499	A	19980514	200046

Priority Applications (No Type Date): US 9879499 A 19980514

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 957616 A2 E 27 H04L-029/06

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI

JP 2000067022 A 68 G06F-015/177

US 6119157 A G06F-013/00

Abstract (Basic): EP 957616 A2

NOVELTY - A data scheme has an n-way tree structure with a root node layer, intermediate node layers and a data layer storing configuration data. The configuration data relates to components and other aspects of the computer network, such as accredited users. Certain portions of the intermediate and data nodes are stored in non-volatile storage and are accessed by numbers of the client computers. The configuration data may be modified in the central server or at a client computer for storage at the server. Configuration data may be coalesced prior to storage at the server.

USE - In networked computer systems.

ADVANTAGE - Allows distributed network management based around a central data store containing network configuration data. Reduces the amount of data, and data traffic, required for configuration purposes.

pp; 27 DwgNo 0/11

Title Terms: METHOD; EXCHANGE; CONFIGURATION; DATA; COMPUTER; NETWORK

Derwent Class: T01; W01

International Patent Class (Main): G06F-013/00 ; G06F-015/177 ;  
H04L-029/06

International Patent Class (Additional): G06F-017/30 ; H04L-012/24

File Segment: EPI

3/5/23 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012457670 \*\*Image available\*\*

WPI Acc No: 1999-263778/199922

XRPX Acc No: N99-196481

**System wide configuration databases for storing global information**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: BLOCK R J; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 083 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9917203	A1	19990408	WO 98US20740	A	19981001	199922 B
AU 9897827	A	19990423	AU 9897827	A	19981001	199935
US 6014669	A	20000111	US 97942242	A	19971001	200010
			US 97954796	A	19971021	
EP 1019822	A1	20000719	EP 98952030	A	19981001	200036
			WO 98US20740	A	19981001	
JP 2001518663	W	20011016	WO 98US20740	A	19981001	200176
			JP 2000514201	A	19981001	
EP 1019822	B1	20020109	EP 98952030	A	19981001	200211
			WO 98US20740	A	19981001	
DE 69803476	E	20020228	DE 603476	A	19981001	200223
			EP 98952030	A	19981001	
			WO 98US20740	A	19981001	
AU 744015	B	20020214	AU 9897827	A	19981001	200223

Priority Applications (No Type Date): US 97954796 A 19971021; US 97942242 A 19971001

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 9917203	A1	E	29	G06F-011/14	
------------	----	---	----	-------------	--

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU  
CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR  
LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM  
TR TT UA UG UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

AU 9897827	A				Based on patent WO 9917203
------------	---	--	--	--	----------------------------

US 6014669	A			G06F-017/30	CIP of application US 97942242
------------	---	--	--	-------------	--------------------------------

EP 1019822	A1	E		G06F-011/14	Based on patent WO 9917203
------------	----	---	--	-------------	----------------------------

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
LU MC NL PT SE

JP 2001518663	W		41	G06F-015/177	Based on patent WO 9917203
---------------	---	--	----	--------------	----------------------------

EP 1019822	B1	E		G06F-011/14	Based on patent WO 9917203
------------	----	---	--	-------------	----------------------------

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
LU MC NL PT SE

DE 69803476	E			G06F-011/14	Based on patent EP 1019822
-------------	---	--	--	-------------	----------------------------

Based on patent WO 9917203

AU 744015	B			G06F-011/14	Previous Publ. patent AU 9897827
-----------	---	--	--	-------------	----------------------------------

Based on patent WO 9917203

Abstract (Basic): WO 9917203 A1

NOVELTY - The cluster configuration database is a distributed configuration database where a consistent copy of the database is maintained at each active node of the cluster (100). Each node in the cluster maintains its own copy of the configuration database and database operations can be performed from any node. Updates are automatically propagated to each node in a lockstep manner.

DETAILED DESCRIPTION - If any node has a failure the database uses a reconfiguration protocol to insure consistent data in each node of the cluster. The database uses a two level consistency framework to insure consistent data among the nodes. Each local copy of the database uses a self contained consistency record to uniquely identify and stamp each copy of the database. The consistency of each local copy of the database can be verified from the consistency record. Additionally, the cluster configuration database uses a two phase commit protocol to guarantee the update copies of the configuration database are consistent among the nodes.

USE - For providing system wide configuration databases for storing global information.

ADVANTAGE - The configuration database is highly available and can survive and recover from single node crashes with minimal interruption of cluster services, maintain consistent data among distributed configuration databases, can be administered from any node in a cluster, and provides fast and efficient queries and is able to store user defined format data.

DESCRIPTION OF DRAWING(S) - The drawing shows a block diagram of a cluster consisting of four nodes.

the cluster (100)

pp; 29 DwgNo 1/7

Title Terms: SYSTEM; WIDE; CONFIGURATION; STORAGE; GLOBE; INFORMATION

Derwent Class: T01; U21

International Patent Class (Main): G06F-011/14 ; G06F-015/177 ;

G06F-017/30

International Patent Class (Additional): G06F-011/20 ; G06F-012/00

File Segment: EPI

Set	Items	Description
S1	162	AU=(ABDELAZIZ, M? OR ABDELAZIZ M? OR TRAVERSAT, B? OR TRAVERSAT B? OR SLAUGHTER, G? OR SLAUGHTER G? OR SAULPAUGH, T? OR SAULPAUGH T?)
S2	150	S1 AND IC=G06F?
S3	23	S2 AND IC=G06F-015?
S4	36	AU=ABDELAZIZ M? AND AU=TRAVERSAT B? AND AU=SLAUGHTER G? AND AU=SAULPAUGH T?
S5	36	S4 AND IC=G06F?

File 347:JAPIO Nov 1976-2004/Feb(Updated 040607)  
(c) 2004 JPO & JAPIO

File 348:EUROPEAN PATENTS 1978-2004/Jun W02  
(c) 2004 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20040617,UT=20040610  
(c) 2004 WIPO/Univentio

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200439  
(c) 2004 Thomson Derwent

5/5/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01682514

Transformation of objects between a computer programming language and data representation language

Transformation von Objekten zwischen einer Rechnerprogrammiersprache und einer Daten-Darstellungssprache

Transformation d'objets entre un langage de programmation et un langage de representation de donnees

PATENT ASSIGNEE:

Sun Microsystems, Inc., (2616592), 4150 Network Circle, Santa Clara, California 95054, (US), (Applicant designated States: all)

INVENTOR:

Slaughter, Gregory L. , 3326 Emerson Street, Palo Alto CA 94306, (US)

Saulpaugh, Thomas E. , 6938 Bret Harte Drive, San Jose CA 95120, (US)

Traversat, Bernard A. , 701 Freemont Drive, Menlo Park, CA 94025, (US)

Abdelaziz, Mahammed M. , 78 Cabot Avenue, Santa Clara CA 95051, (US)

Duigou, Michael J., 33928 Capulet Circle, Fremont CA 94555, (US)

LEGAL REPRESENTATIVE:

Davies, Simon Robert (75453), D Young & Co, 21 New Fetter Lane, London, EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 1380941 A2 040114 (Basic)

APPLICATION (CC, No, Date): EP 2003021805 010509;

PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430

P 000602; US 209140 P 000602; US 209525 P 000605; US 663563 000915

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;

LU; MC; NL; PT; SE; TR

RELATED PARENT NUMBER(S) - PN (AN):

EP 1290547 (EP 2001937315)

INTERNATIONAL PATENT CLASS: G06F-009/44

ABSTRACT EP 1380941 A2

A mechanism for compiling objects into representations of the objects, and for decompiling the representations of the objects into copies of the objects, is described. A virtual machine (e.g. the Java Virtual Machine (JVM)) may include extensions for compiling objects (e.g. Java Objects) into data representation language (e.g. XML) representations of the objects, and for decompiling representations of objects into objects. The virtual machine may supply an Applications Programming Interface (API) to the compilation/decompilation extensions. The client and service may be executing within virtual machines. The virtual machines may be on the same device or on different devices. The compiler/decompiler API may accept an object as input, and output a data representation language representation of the object and all its referenced objects (the object graph) in a data stream. In addition, the compiler/decompiler API may accept a data stream, which includes a representation of the object and all its referenced objects (the object graph), and output the object (and all the objects in its object graph). In one embodiment, an intermediary format may be used to represent a data representation language document and may be dynamically processed to generate a class instance from the data representation language document.

ABSTRACT WORD COUNT: 199

NOTE:

Figure number on first page: 34

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 040114 A2 Published application without search report

Change: 040310 A2 Inventor information changed: 20040122

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200403	1588
SPEC A	(English)	200403	67114
Total word count - document A			68702
Total word count - document B			0

Total word count - documents A + B 68702

5/5/2 (Item 2 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01451074

**PEER-TO-PEER NETWORK COMPUTING PLATFORM**  
**RECHNERPLATTFORM IN EINEM GLEICHFRANGIGEN NETZWERK**  
**PLATE-FORME DE RESEAU ENTRE HOMOLOGUES**  
PATENT ASSIGNEE:

SUN MICROSYSTEMS, INC., (1392733), 901 San Antonio Road, Palo Alto,  
California 94303, (US), (Applicant designated States: all)

INVENTOR:

TRAVERSAT, Bernard, A. , 2055 California Street, Apartment 402, San  
Francisco, CA 94109, (US)  
SLAUGHTER, Gregory, L. , 3326 Emerson Street, Palo Alto, CA 94306, (US)  
SAULPAUGH, Thomas, E. , 6938 Bret Harte Drive, San Jose, CA 95120, (US)  
ABDELAZIZ, Mohamed, M. , 78 Cabot Avenue, Santa Clara, CA 95051, (US)  
DUIGOU, Michael, J., 33928 Capulet Circle, Fremont, CA 94555, (US)  
POUYOUL, Eric, 350 Day Street, San Francisco, CA 94131, (US)  
HUGLY, Jean-Christophe, 3127 Avalon Court, Palo Alto, CA 94303, (US)  
GONG, Li, 1507 Richardson Avenue, Los Altos, CA 94024, (US)  
YEAGER, William, J., 620 Berkeley Avenue, Menlo Park, CA 94025, (US)  
JOY, William, N., 1150 River Drive, Aspen, CO 81611, (US)  
CLARY, Michael, J., 15532 Kavin Lane, Monte Sereno, CA 95030, (US)

PATENT (CC, No, Kind, Date):

WO 2002057917 020725

APPLICATION (CC, No, Date): EP 2002701060 020118; WO 2002US1362 020118

PRIORITY (CC, No, Date): US 263573 P 010122; US 268893 P 010214; US 286225  
P 010424; US 308932 P 010731

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-009/46 ; G06F-017/60 ; H04L-012/56

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020918 A2 International application. (Art. 158(1))

Application: 020918 A2 International application entering European  
phase

LANGUAGE (Publication,Procedural,Application): English; English; English

5/5/3 (Item 3 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01384623

**REMOTE FUNCTION INVOCATION WITH MESSAGING IN A DISTRIBUTED COMPUTING**  
**ENVIRONMENT**  
**AUFRUF EINER ENTFERNTEN FUNKTION MIT NACHRICHTEN IN EINER VERTEILTEN**  
**RECHNERUMGEBUNG**  
**APPEL DE FONCTION A DISTANCE AU MOYEN DE MESSAGES DANS UN ENVIRONNEMENT**  
**INFORMATIQUE DISTRIBUE**

PATENT ASSIGNEE:

Sun Microsystems, Inc., (2616592), 4150 Network Circle, Santa Clara,  
California 95054, (US), (Applicant designated States: all)

INVENTOR:

SLAUGHTER, Gregory, L. , 3326 Emerson St., Palo Alto, CA 94306, (US)  
SAULPAUGH, Thomas, E. , 6938 Bret Harte Dr., San Jose, CA 95120, (US)  
TRAVERSAT, Bernard, A. , 701 Fremont Street, Menlo Park, CA 94025, (US)  
ABDELAZIZ, Mohamed, M. , 78 Cabot Ave., Santa Clara, CA 95051, (US)

LEGAL REPRESENTATIVE:

Harris, Ian Richard (72231), D. Young & Co., 21 New Fetter Lane, London  
EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 1314085 A2 030528 (Basic)  
WO 2001090883 011129



APPLICATION (CC, No, Date): EP 2001937284 010509; WO 2001US15120 010509  
PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430  
P 000602; US 209140 P 000602; US 209525 P 000605; US 672200 000927  
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR  
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI  
INTERNATIONAL PATENT CLASS: G06F-009/00  
NOTE:

No A-document published by EPO  
LEGAL STATUS (Type, Pub Date, Kind, Text):  
Application: 020123 A2 International application. (Art. 158(1))  
Application: 020123 A2 International application entering European  
phase  
Application: 030528 A2 Published application without search report  
Examination: 030528 A2 Date of request for examination: 20021126  
LANGUAGE (Publication,Procedural,Application): English; English; English

5/5/4 (Item 4 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01379090

MECHANISM AND APPARATUS FOR ACCESSING AND ADDRESSING SERVICES IN A  
DISTRIBUTED COMPUTING ENVIRONMENT  
VERFAHREN UND VORRICHTUNG ZUM ZUGRIFF UND ZUR ADRESSIERUNG VON DIENSTEN IN  
EINER VERTEILTEN RECHNERUMGEBUNG  
MECANISME ET APPAREIL D'ACCES ET D'ADRESSAGE DE SERVICES DANS UN  
ENVIRONNEMENT INFORMATIQUE REPARTI  
PATENT ASSIGNEE:

Sun Microsystems, Inc., (2616592), 4150 Network Circle, Santa Clara,  
California 95054, (US), (Proprietor designated states: all)

INVENTOR:

SLAUGHTER, Gregory, L. , 3326 Emerson Street, Palo Alto, CA 94306, (US)  
SAULPAUGH, Thomas, E. , 6938 Bret Harte Drive, San Jose, CA 95120, (US)  
TRAVERSAT, Bernard, A. , 2055 California Street, Apt. 402, San  
Francisco, CA 94109, (US)  
ABDELAZIZ, Mohamed, M. , 78 Cabot Avenue, Santa Clara, CA 95051, (US)

LEGAL REPRESENTATIVE:

Davies, Simon Robert (75453), D Young & Co, 21 New Fetter Lane, London,  
EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 1285334 A2 030226 (Basic)  
EP 1285334 B1 040128  
WO 2001086420 011115

APPLICATION (CC, No, Date): EP 2001939009 010509; WO 2001US15044 010509  
PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430  
P 000602; US 209140 P 000602; US 209525 P 000605; US 660563 000912  
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR  
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI  
INTERNATIONAL PATENT CLASS: G06F-009/00  
CITED PATENTS (EP B): EP 892530 A  
CITED REFERENCES (EP B):

GUTTMAN E: "Service Location Protocol: Automatic Discovery of IP Network  
Services" IEEE INTERNET COMPUTING, IEEE SERVICE CENTER, PISCATAWAY, NJ,  
US, vol. 3, no. 4, 1 July 1999 (1999-07-01), pages 71-80, XP002140936  
ISSN: 1089-7801

PAGUREK B ET AL: "MANAGEMENT OF ADVANCED SERVICES IN H.323 INTERNET  
PROTOCOL TELEPHONY" PROCEEDINGS IEEE INFOCOM 2000. THE CONFERENCE ON  
COMPUTER COMMUNICATIONS. 19TH. ANNUAL JOINT CONFERENCE OF THE IEEE  
COMPUTER AND COMMUNICATIONS SOCIETIES. TEL AVIV, ISRAEL, MARCH, 26-30,  
2000, PROCEEDINGS IEEE INFOCOM. THE CONFERENCE ON COMPUTER COMMU, vol.  
3 OF 3. CONF. 19, 26 March 2000 (2000-03-26), pages 91-100, XP001004237  
ISBN: 0-7803-5881-3

K. EDWARDS: "Core Jini" June 1999 (1999-06) , PRENTICE HALL PTR , 1ST  
EDITION XP002209958 page 297, line 1 -page 305, line 19 page 328, line  
1 -page 329, line 5;

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020109 A2 International application. (Art. 158(1))  
Application: 020109 A2 International application entering European phase  
Application: 030226 A2 Published application without search report  
Examination: 030226 A2 Date of request for examination: 20021209  
Assignee: 030423 A2 Transfer of rights to new applicant: Sun Microsystems, Inc. (2616592) 4150 Network Circle Santa Clara, California 95054 US

Grant: 040128 B1 Granted patent

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200405	616
CLAIMS B	(German)	200405	663
CLAIMS B	(French)	200405	699
SPEC B	(English)	200405	60149
Total word count - document A			0
Total word count - document B			62127
Total word count - documents A + B			62127

5/5/5 (Item 5 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

(c) 2004 European Patent Office. All rts. reserv.

01379018

TRANSFORMATION OF OBJECTS BETWEEN A COMPUTER PROGRAMMING LANGUAGE AND A DATA REPRESENTATION LANGUAGE

TRANSFORMATION VON OBJEKTEN ZWISCHEN EINER RECHNERPROGRAMMIERSPRACHE UND EINER DATEN-DARSTELLUNGSSPRACHE

TRANSFORMATION D'OBJETS ENTRE UN LANGAGE DE PROGRAMMATION ET UN LANGAGE DE REPRESENTATION DE DONNEES

PATENT ASSIGNEE:

Sun Microsystems, Inc., (2616592), 4150 Network Circle, Santa Clara, California 95054, (US), (Proprietor designated states: all)

INVENTOR:

SLAUGHTER, Gregory, L. , 3326 Emerson Street, Palo Alto, CA 94306, (US)

SAULPAUGH, Thomas, E. , 6938 Bret Harte Drive, San Jose, CA 95120, (US)

TRAVERSAT, Bernard, A. , 701 Fremont Street, Menlo Park, CA 94025, (US)

ABDELAZIZ, Mohamed, M. , 78 Cabot Avenue, Santa Clara, CA 95051, (US)

DUIGOU, Michael, J., 33928 Capulet Circle, Fremont, CA 94555, (US)

LEGAL REPRESENTATIVE:

Davies, Simon Robert (75453), D Young & Co, 21 New Fetter Lane, London, EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 1290547 A2 030312 (Basic)

EP 1290547 B1 040107

WO 2001086427 011115

APPLICATION (CC, No, Date): EP 2001937315 010509; WO 2001US15276 010509

PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430

P 000602; US 209140 P 000602; US 209525 P 000605; US 663563 000915

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;

LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

RELATED DIVISIONAL NUMBER(S) - PN (AN):

(EP 2003021805)

INTERNATIONAL PATENT CLASS: G06F-009/00

CITED PATENTS (EP B): WO /17748 A

CITED REFERENCES (EP B):

ALLAIRE J: "The Emerging Distributed Web Part 3/4 and 4/4" , September 1998 (1998-09), pages 1-9, XP002135919

MUELLER-WILKEN S ET AL: "XML and Jini - On Using XML and the JAVA Border Service Architecture to integrate mobile devices into the JAVA Intelligent Network Infrastructure" , 29 February 2000 (2000-02-29), XP002188507

SIMEONOV S: "WDDX: Distributed Data for the Web (URL)" , 7 December 1998  
(1998-12-07), pages 1-7, XP002135918  
M. JOHNSON: "XML JavaBeans, Part 2" JAVA WORLD, Online! March 1999  
(1999-03), pages 1-8, XP002212704 Retrieved from the Internet:  
<URL:http://www.javaworld.com/javaworld/jw-03-1999/jw-03-beans p.html>  
retrieved on 2002-09-06!;

NOTE:

No A-document published by EPO  
LEGAL STATUS (Type, Pub Date, Kind, Text):  
Application: 020109 A2 International application. (Art. 158(1))  
Application: 020109 A2 International application entering European  
phase  
Application: 030312 A2 Published application without search report  
Examination: 030312 A2 Date of request for examination: 20021206  
Assignee: 030423 A2 Transfer of rights to new applicant: Sun  
Microsystems, Inc. (2616592) 4150 Network  
Circle Santa Clara, California 95054 US  
Change: 030507 A2 Inventor information changed: 20030314  
Change: 031126 A2 Application number of divisional application  
(Article 76) changed: 20031008  
Grant: 040107 B1 Granted patent  
LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200402	2173
CLAIMS B	(German)	200402	2133
CLAIMS B	(French)	200402	2551
SPEC B	(English)	200402	66522
Total word count - document A			0
Total word count - document B			73379
Total word count - documents A + B			73379

5/5/6 (Item 6 from file: 348)  
DIALOG(R) File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01379008

MESSAGE GATES IN A DISTRIBUTED COMPUTING ENVIRONMENT  
NACHRICHTENTORE IN EINER VERTEILTEN RECHNERUMGEBUNG  
PORTE DE MESSAGERIE EN ENVIRONNEMENT D'INFORMATIQUE DISTRIBUEE  
PATENT ASSIGNEE:

SUN MICROSYSTEMS, INC., (1392733), 901 San Antonio Road, Palo Alto,  
California 94303, (US), (Applicant designated States: all)

INVENTOR:

SLAUGHTER, Gregory, L. , 3326 Emerson Street, Palo Alto, CA 94306, (US)  
SAULPAUGH, Thomas, E. , 6938 Bret Harte Drive, San Jose, CA 95120, (US)  
TRAVERSAT, Bernard, A. , 2055 California Street, Apt. 402, San  
Francisco, CA 94109, (US)

ABDELAZIZ, Mohamed, M. , 78 Cabot Avenue, Santa Clara, CA 95051, (US)

PATENT (CC, No, Kind, Date):

WO 2001086421 011115

APPLICATION (CC, No, Date): EP 2001937285 010509; WO 2001US15121 010509

PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430

P 000602; US 209140 P 000602; US 209525 P 000605; US 653229 000831

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-009/00

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020109 A2 International application. (Art. 158(1))  
Application: 020109 A2 International application entering European  
phase  
Application: 030813 A2 International application. (Art. 158(1))  
Appl Changed: 030813 A2 International application not entering European  
phase  
Withdrawal: 030813 A2 Date application deemed withdrawn: 20021210

LANGUAGE (Publication,Procedural,Application): English; English; English

5/5/7 (Item 7 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01379007

**METHOD AND APPARATUS FOR PROXIMITY DISCOVERY OF SERVICES**  
**VERFAHREN UND VORRICHTUNG ZUR ERMITTLUNG VON BENACHBARTEN DIENSTEN**  
**PROCEDE ET APPAREIL POUR DECOUVRIR LA PROXIMITE DE SERVICES**  
PATENT ASSIGNEE:

Sun Microsystems, Inc., (2616592), 4150 Network Circle, Santa Clara,  
California 95054, (US), (Proprietor designated states: all)

INVENTOR:

**SLAUGHTER, Gregory, L.** , 3326 Emerson St., Palo Alto, CA 94306, (US)  
**SAULPAUGH, Thomas, E.** , 6938 Bret Harte Dr., San Jose, CA 95120, (US)  
**TRAVERSAT, Bernard, A.** , 701 Fremont Street, Menlo Park, CA 94025, (US)  
**DUIGOU, Michael, J.** , 33928 Capulet Circle, Fremont, CA 94555, (US)  
**ABDELAZIZ, Mohamed, M.** , 78 Cabot Ave., Santa Clara, CA 95051, (US)

LEGAL REPRESENTATIVE:

Davies, Simon Robert (75453), D Young & Co, 21 New Fetter Lane, London,  
EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 1285354 A2 030226 (Basic)  
EP 1285354 B1 040303  
WO 2001086486 011115

APPLICATION (CC, No, Date): EP 2001937281 010509; WO 2001US15099 010509

PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430  
P 000602; US 209140 P 000602; US 209525 P 000605; US 656588 000907

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: **G06F-017/00**

CITED PATENTS (EP B): US 5724588 A

CITED REFERENCES (EP B):

MUNSON M ET AL: "Flexible internetworking of devices and controls"  
INDUSTRIAL ELECTRONICS SOCIETY, 1999. IECON '99 PROCEEDINGS. THE 25TH  
ANNUAL CONFERENCE OF THE IEEE SAN JOSE, CA, USA 29 NOV.-3 DEC. 1999,  
PISCATAWAY, NJ, USA, IEEE, US, 29 November 1999 (1999-11-29), pages  
1139-1145, XP010366788 ISBN: 0-7803-5735-3

PAGUREK B ET AL: "MANAGEMENT OF ADVANCED SERVICES IN H.323 INTERNET  
PROTOCOL TELEPHONY" PROCEEDINGS IEEE INFOCOM 2000. THE CONFERENCE ON  
COMPUTER COMMUNICATIONS. 19TH. ANNUAL JOINT CONFERENCE OF THE IEEE  
COMPUTER AND COMMUNICATIONS SOCIETIES. TEL AVIV, ISRAEL, MARCH, 26-30,  
2000, PROCEEDINGS IEEE INFOCOM. THE CONFERENCE ON COMPUTER COMMU, vol.  
3 OF 3. CONF. 19, 26 March 2000 (2000-03-26), pages 91-100, XP001004237  
ISBN: 0-7803-5881-3

HODES T D ET AL: "COMPOSABLE AD HOC LOCATION-BASED SERVICES FOR  
HETEROGENEOUS MOBILE CLIENTS" WIRELESS NETWORKS, ACM, US, vol. 5, no.  
5, October 1999 (1999-10), pages 411-427, XP000902495 ISSN: 1022-0038

K. EDWARDS: "Core Jini" June 1999 (1999-06) , PTR PRENTICE HALL , 1ST  
EDITION XP002212106 page 68, line 18 -page 76, line 13

TREVOR J ET AL: "The use of adapters to support cooperative sharing"  
CSCW. PROCEEDINGS OF THE CONFERENCE ON COMPUTER SUPPORTED COOPERATIVE  
WORK, XX, XX, 22 October 1994 (1994-10-22), pages 219-230, XP002174728;

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020109 A2 International application. (Art. 158(1))

Application: 020109 A2 International application entering European  
phase

Application: 030226 A2 Published application without search report

Examination: 030226 A2 Date of request for examination: 20021206

Assignee: 030423 A2 Transfer of rights to new applicant: Sun  
Microsystems, Inc. (2616592) 4150 Network  
Circle Santa Clara, California 95054 US

Change: 030507 A2 Inventor information changed: 20030314

Change: 031015 A2 Title of invention (German) changed: 20030827  
 Grant: 040303 B1 Granted patent  
 LANGUAGE (Publication,Procedural,Application): English; English; English  
 FULLTEXT AVAILABILITY:  

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200410	1593
CLAIMS B	(German)	200410	1477
CLAIMS B	(French)	200410	1803
SPEC B	(English)	200410	58024
Total word count - document A			0
Total word count - document B			62897
Total word count - documents A + B			62897

5/5/8 (Item 8 from file: 348)  
 DIALOG(R)File 348:EUROPEAN PATENTS  
 (c) 2004 European Patent Office. All rts. reserv.

01378837

**MECHANISM AND APPARATUS FOR WEB-BASED SEARCHING OF URI-ADDRESSABLE REPOSITORIES IN A DISTRIBUTED COMPUTING ENVIRONMENT**  
**MECHANISMUS UND VORRICHTUNG ZUM SUCHEN, AUF DEM INTERNET, NACH URI-ADRESSIERBAREN SPEICHERN IN EINER VERTEILTEN RECHNERUMGEBUNG**  
**PROCEDE ET DISPOSITIF DE RECHERCHE DANS LE WEB DE SERVICES D'ARCHIVE ADRESSABLES PAR URI DANS UN ENVIRONNEMENT D'INFORMATIQUE DISTRIBUEE**  
 PATENT ASSIGNEE:

SUN MICROSYSTEMS, INC., (1392733), 901 San Antonio Road, Palo Alto, California 94303, (US), (Applicant designated States: all)

INVENTOR:

**SLAUGHTER, Gregory, L.** , 3326 Emerson Street, Palo Alto, CA 94306, (US)  
**SAULPAUGH, Thomas, E.** , 6938 Bret Harte Drive, San Jose, CA 95120, (US)  
**TRAVERSAT, Bernard, A.** , 2055 California Street, Apt. 402, San Francisco, CA 94109, (US)

**ABDELAZIZ, Mohamed, M.** , 78 Cabot Avenue, Santa Clara, CA 95051, (US)

PATENT (CC, No, Kind, Date):

WO 2001086487 011115

APPLICATION (CC, No, Date): EP 2001935281 010509; WO 2001US15135 010509

PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430 P 000602; US 209140 P 000602; US 209525 P 000605; US 653612 000831

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: **G06F-017/00**

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020109 A2 International application. (Art. 158(1))

Application: 020109 A2 International application entering European phase

Application: 030813 A2 International application. (Art. 158(1))

Appl Changed: 030813 A2 International application not entering European phase

Withdrawal: 030813 A2 Date application deemed withdrawn: 20021210

LANGUAGE (Publication,Procedural,Application): English; English; English

5/5/9 (Item 9 from file: 348)  
 DIALOG(R)File 348:EUROPEAN PATENTS  
 (c) 2004 European Patent Office. All rts. reserv.

01378836

**METHOD AND APPARATUS TO OBTAIN SERVICE CAPABILITY CREDENTIALS**  
**VERFAHREN UND VORRICHTUNG, UM EIN DIENSTFAHIGKEITSBEGLAUBIGUNGSSCHREIBEN ZU ERHALTEN**  
**PROCEDE ET APPAREIL PERMETTANT D'OBTENIR DES TITRES ACCREDITIFS RELATIFS A DES CAPACITES DE SERVICES**  
 PATENT ASSIGNEE:

SUN MICROSYSTEMS, INC., (1392733), 901 San Antonio Road, Palo Alto, California 94303, (US), (Applicant designated States: all)

INVENTOR:

**Slaughter, Gregory L.** , 3326 Emerson Street, Palo Alto, CA 94306, (US)  
**Saulpaugh, Thomas E.** , 6938 Bret Harte Drive, San Jose, CA 95120, (US)  
**Traversat, Bernard A.** , 701 Fremont Street, Menlo Park, CA 94025, (US)  
**ABDELAZIZ, Mohamed M.** , 78 Cabot Avenue, Santa Clara, CA 95051, (US)

LEGAL REPRESENTATIVE:

Davies, Simon Robert (75453), D Young & Co, 21 New Fetter Lane, London,  
EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 1287423 A2 030305 (Basic)  
WO 2001086394 011115

APPLICATION (CC, No, Date): EP 2001935280 010509; WO 2001US15134 010509

PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430  
P 000602; US 209140 P 000602; US 209525 P 000605; US 653215 000831

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: **G06F-001/00**

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020109 A2 International application. (Art. 158(1))

Application: 020109 A2 International application entering European  
phase

Application: 030305 A2 Published application without search report

Examination: 030305 A2 Date of request for examination: 20021202

Assignee: 030423 A2 Transfer of rights to new applicant: Sun  
Microsystems, Inc. (2616592) 4150 Network  
Circle Santa Clara, California 95054 US

Change: 030507 A2 Inventor information changed: 20030314

Examination: 030723 A2 Date of dispatch of the first examination  
report: 20030606

LANGUAGE (Publication,Procedural,Application): English; English; English

5/5/10 (Item 10 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

(c) 2004 European Patent Office. All rts. reserv.

01378835

**BRIDGING BETWEEN A DATA REPRESENTATION LANGUAGE MESSAGE-BASED DISTRIBUTED  
COMPUTING ENVIRONMENT AND OTHER ENVIRONMENTS**

**VERBINDUNG ZWISCHEN EINER AUF DATENDARSTELLUNGSSPRACHE UND AUF NACHRICHTEN  
BASIIERTEN VERTEILTEN RECHNERUMGEBUNG UND ANDERE UMGEBUNGEN**

**LIAISON ENTRE UN ENVIRONNEMENT INFORMATIQUE DISTRIBUEE BASE SUR LA  
MESSAGERIE EN LANGAGE DE REPRESENTATION DES DONNEES ET D'AUTRES  
ENVIRONNEMENTS**

PATENT ASSIGNEE:

Sun Microsystems, Inc., (2616592), 4150 Network Circle, Santa Clara,  
California 95054, (US), (Applicant designated States: all)

INVENTOR:

**SLAUGHTER, Gregory, L.** , 3326 Emerson St., Palo Alto, CA 94306, (US)  
**SAULPAUGH, Thomas, E.** , 6938 Bret Harte Dr., San Jose, CA 95120, (US)  
**TRAVERSAT, Bernard A.** , 701 Fremont Street, Menlo Park, CA 94025, (US)  
**ABDELAZIZ, Mohamed, M.** , 78 Cabot Ave., Santa Clara, CA 95051, (US)  
**DUIGOU, Michael, J.** , 33928 Capulet Circle, Fremont, CA 94555, (US)

LEGAL REPRESENTATIVE:

Harris, Ian Richard (72231), D. Young & Co., 21 New Fetter Lane, London  
EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 1384142 A2 040128 (Basic)  
WO 2001086422 011115

APPLICATION (CC, No, Date): EP 2001935279 010509; WO 2001US15133 010509

PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430  
P 000602; US 209140 P 000602; US 209525 P 000605; US 693672 001019

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: **G06F-009/00**

NOTE:

No A-document published by EPO  
LEGAL STATUS (Type, Pub Date, Kind, Text):  
Application: 020109 A2 International application. (Art. 158(1))  
Application: 020109 A2 International application entering European  
phase  
Application: 040128 A2 Published application without search report  
Examination: 040128 A2 Date of request for examination: 20021122  
LANGUAGE (Publication,Procedural,Application): English; English; English

5/5/11 (Item 11 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01378516

MECHANISM AND APPARATUS FOR RETURNING RESULTS OF SERVICES IN A DISTRIBUTED  
COMPUTING ENVIRONMENT  
MECHANISMUS UND VORRICHTUNG ZUM ZURUCKGEBEN VON DIENST-ERGEBNISSEN IN EINER  
VERTEILTEN RECHNERUMGEBUNG  
MECANISME ET APPAREIL PERMETTANT DE RENDRE DES RESULTATS DE SERVICES DANS  
UN ENVIRONNEMENT INFORMATIQUE DISTRIBUE  
PATENT ASSIGNEE:

SUN MICROSYSTEMS, INC., (1392733), 901 San Antonio Road, Palo Alto,  
California 94303, (US), (Applicant designated States: all)

INVENTOR:

SLAUGHTER, Gregory, L. , 3326 Emerson St., Palo Alto, CA 94306, (US)  
SAULPAUGH, Thomas, E. , 6938 Bret Harte Dr., San Jose, CA 95120, (US)  
TRAVERSAT, Bernard, A. , 701 Fremont Street, Menlo Park, CA 94025, (US)  
ABDELAZIZ, Mohamed, M. , 78 Cabot Ave., Santa Clara, CA 95051, (US)

LEGAL REPRESENTATIVE:

Davies, Simon Robert (75453), D Young & Co, 21 New Fetter Lane, London,  
EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 1281119 A2 030205 (Basic)  
WO 2001086425 011115

APPLICATION (CC, No, Date): EP 2001933290 010509; WO 2001US15206 010509

PRIORITY (CC, No, Date): US 202975 P 000509; US 208011 P 000526; US 209430  
P 000602; US 209140 P 000602; US 209525 P 000605; US 660553 000912

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-009/00

NOTE:

No A-document published by EPO  
LEGAL STATUS (Type, Pub Date, Kind, Text):  
Application: 020109 A2 International application. (Art. 158(1))  
Application: 020109 A2 International application entering European  
phase  
Application: 030205 A2 Published application without search report  
Examination: 030205 A2 Date of request for examination: 20021129  
Assignee: 030423 A2 Transfer of rights to new applicant: Sun  
Microsystems, Inc. (2616592) 4150 Network  
Circle Santa Clara, California 95054 US  
Examination: 030502 A2 Date of dispatch of the first examination  
report: 20030318  
Change: 030502 A2 Inventor information changed: 20030313  
Change: 040107 A2 Title of invention (German) changed: 20031120  
Change: 040107 A2 Title of invention (French) changed: 20031120  
LANGUAGE (Publication,Procedural,Application): English; English; English

5/5/12 (Item 12 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

01378511

DYNAMIC DISPLAY OBJECTS IN A DISTRIBUTED COMPUTING ENVIRONMENT

**DYNAMISCHE BILDSCHIRMOBJEKTE IN EINER VERTEILTEN RECHNERUMGEBUNG**  
**AFFICHAGES DYNAMIQUES DANS UN ENVIRONNEMENT D'INFORMATIQUE DISTRIBUEE**  
**PATENT ASSIGNEE:**

SUN MICROSYSTEMS, INC., (1392733), 901 San Antonio Road, Palo Alto,  
California 94303, (US), (Applicant designated States: all)

**INVENTOR:**

**SLAUGHTER, Gregory, L.** , 3326 Emerson Street, Palo Alto, CA 94306, (US)  
**SAULPAUGH, Thomas, E.** , 6938 Bret Harte Drive, San Jose, CA 95120, (US)  
**TRAVERSAT, Bernard, A.** , 701 Fremont Street, Menlo Park, CA 94025, (US)  
**ABDELAZIZ, Mohamed, M.** , 78 Cabot Avenue, Santa Clara, CA 95051, (US)

**LEGAL REPRESENTATIVE:**

Harris, Ian Richard (72231), D. Young & Co., 21 New Fetter Lane, London  
EC4A 1DA, (GB)

**PATENT (CC, No, Kind, Date):** EP 1297413 A2 030402 (Basic)  
WO 2001086424 011115

**APPLICATION (CC, No, Date):** EP 2001933282 010509; WO 2001US15137 010509

**PRIORITY (CC, No, Date):** US 202975 P 000509; US 208011 P 000526; US 209430  
P 000602; US 209140 P 000602; US 209525 P 000605; US 693321 001019

**DESIGNATED STATES:** AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR

**EXTENDED DESIGNATED STATES:** AL; LT; LV; MK; RO; SI

**INTERNATIONAL PATENT CLASS:** G06F-009/00

**NOTE:**

No A-document published by EPO

**LEGAL STATUS (Type, Pub Date, Kind, Text):**

Application: 020109 A2 International application. (Art. 158(1))

Application: 020109 A2 International application entering European  
phase

Application: 030402 A2 Published application without search report

Examination: 030402 A2 Date of request for examination: 20021122

Assignee: 030423 A2 Transfer of rights to new applicant: Sun  
Microsystems, Inc. (2616592) 4150 Network  
Circle Santa Clara, California 95054 US

Change: 030502 A2 Inventor information changed: 20030310

**LANGUAGE (Publication,Procedural,Application):** English; English; English

5/5/13 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00923879 \*\*Image available\*\*

**PEER-TO-PEER NETWORK COMPUTING PLATFORM**

**PLATE-FORME DE RESEAU ENTRE HOMOLOGUES**

**Patent Applicant/Assignee:**

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

**Inventor(s):**

**TRAVERSAT Bernard A** , 2055 California Street, Apartment 402, San  
Francisco, CA 94109, US,

**SLAUGHTER Gregory L** , 3326 Emerson Street, Palo Alto, CA 94306, US,

**SAULPAUGH Thomas E** , 6938 Bret Harte Drive, San Jose, CA 95120, US,

**ABDELAZIZ Mohamed M** , 78 Cabot Avenue, Santa Clara, CA 95051, US,

**DUIGOU Michael J**, 33928 Capulet Circle, Fremont, CA 94555, US,

**POUYOUL Eric**, 350 Day Street, San Francisco, CA 94131, US,

**HUGLY Jean-Christophe**, 3127 Avalon Court, Palo Alto, CA 94303, US,

**GONG Li**, 1507 Richardson Avenue, Los Altos, CA 94024, US,

**YEAGER William J**, 620 Berkeley Avenue, Menlo Park, CA 94025, US,

**JOY William N**, 1150 River Drive, Aspen, CO 81611, US,

**CLARY Michael J**, 15532 Kavin Lane, Monte Sereno, CA 95030, US

**Legal Representative:**

CONLEY ROSE & TAYON P C (agent), KOWERT, Robert, C., P.O. Box 398,  
Austin, TX 78767-0398, US,

**Patent and Priority Information (Country, Number, Date):**

Patent: WO 200257917 A2-A3 20020725 (WO 0257917)

Application: WO 2002US1362 20020118 (PCT/WO US0201362)

Priority Application: US 2001263573 20010122; US 2001268893 20010214; US



2001286225 20010424; US 2001308932 20010731

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO  
RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/46

International Patent Class: H04L-012/56; H04L-029/06; H04L-012/18

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 30094

#### English Abstract

A peer-to-peer platform that may provide mechanisms through which peers may discover each other, communicate with each other, and cooperate with each other to form peer groups is described. The peer-to-peer platform may comprise several layers including a peer-to-peer platform layer, a peer-to-peer services layer, and a peer-to-peer applications layer. At the highest abstraction level, the peer-to-peer platform may be viewed as a set of protocols. Each protocol may be defined by one or more messages exchanged among participants of the protocol. In one embodiment, the peer-to-peer platform may include, but is not limited to, one or more of a peer discovery protocol, a peer resolver protocol, a peer information protocol, a peer membership protocol, a pipe binding protocol, and an endpoint routing protocol. To underpin this set of protocols, the peer-to-peer platform may define a number of concepts including peer, peer group, advertisement, message, pipe, and endpoint.

#### French Abstract

L'invention concerne une plate-forme entre homologues, capable d'établir des mécanismes qui permettent à des homologues de se découvrir, de communiquer entre eux, et de coopérer mutuellement pour former des groupes d'homologues. La plate-forme peut comporter plusieurs couches: de plate-forme entre homologues, de services entre homologues, et d'applications entre homologues. Au niveau d'abstraction le plus élevé, la plate-forme peut être considérée comme un jeu de protocoles, chaque protocole étant défini par un ou plusieurs messages entre les participants au protocole. Selon une variante, la plate-forme peut comprendre, de façon non exhaustive, un ou plusieurs des protocoles suivants: de découverte entre homologues, de résolution d'homologue, d'information d'homologue, d'inclusion d'homologue, de liaison entre les canaux de communication, et d'acheminement en point d'extrémité. Pour ancrer ce jeu de protocoles, la plate-forme peut définir un certain nombre de concepts: homologue, groupe d'homologues, annonce, message, canal de communication, et point d'extrémité.

#### Legal Status (Type, Date, Text)

Publication	20020725	A2 Without international search report and to be republished upon receipt of that report.
Examination	20030213	Request for preliminary examination prior to end of 19th month from priority date
Search Rpt	20030424	Late publication of international search report
Republication	20030424	A3 With international search report.
Withdrawal	20030814	Withdrawal of international application after international publication

5/5/14 (Item 2 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00857226      \*\*Image available\*\*

**REMOTE FUNCTION INVOCATION WITH MESSAGING IN A DISTRIBUTED COMPUTING ENVIRONMENT**

**APPEL DE FONCTION A DISTANCE AU MOYEN DE MESSAGES DANS UN ENVIRONNEMENT INFORMATIQUE DISTRIBUE**

Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson St., Palo Alto, CA 94306, US,  
**SAULPAUGH Thomas E** , 6938 Bret Harte Dr., San Jose, CA 95120, US,  
**TRAVERSAT Bernard A** , 2055 California St., Apartment 402, San Francisco, CA 94109, US,  
**ABDELAZIZ Mohamed M** , 78 Cabot Ave., Santa Clara, CA 95051, US

Legal Representative:

KOWERT Robert C (agent), Conley, Rose & Tayon, P.C., P.O. Box 398,  
Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200190883 A2-A3 20011129 (WO 0190883)

Application: WO 2001US15120 20010509 (PCT/WO US0115120)

Priority Application: US 2000202975 20000509; US 2000208011 20000526; US 2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US 2000672200 20000927

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-009/46**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 68919

**English Abstract**

An interface between clients and services in a distributed computing environment is described. Method gates may provide an interface to remotely invoke functions of a service. A method gate may be generated from an advertisement that may include definitions for one or more messages for remotely invoking functions of the service. A client may generate messages containing representations of method calls. The service may invoke functions that correspond to the set of messages. A method gate on the service may unmarshal the message and invoke the function. The client may receive the results of the function directly. Alternatively, the results may be stored, an advertisement to the results may be provided, and a gate may be generated to access the results. Message gates may perform the sending and receiving of the messages between the client and service. In one embodiment, functions of the service may be computer programming language (e.g. Java) methods. In one embodiment, a message including a representation of a method call may be generated when no actual method call was made. In one embodiment, a method call may be transformed into messages that may be sent to the service; the service may not know that the messages were generated from a method call. In one embodiment, a service may transform messages requesting functions into method calls; the client may not know that the service is invoking methods to perform the functions.

**French Abstract**

L'invention concerne une interface entre des clients et des services dans un environnement informatique distribue. Des grilles de methodes peuvent fournir une interface pour appeler a distance des fonctions d'un service. Une grille de methode peut etre generee a partir d'une annonce pouvant

contenir des definitions d'un ou de plusieurs messages afin d'appeler a distance des fonctions du service. Un client peut generer des messages contenant des representations d'appels de methode. Le service peut appeler des fonctions qui correspondent a l'ensemble de messages. Une grille de methode sur le service peut decoder le message et appeler la fonction. Le client peut recevoir les resultats de la fonction directement. Les resultats peuvent eventuellement etre stockes, une annonce des resultats peut etre produite et une grille peut etre generee pour acceder aux resultats. Des grilles de message peuvent emettre et recevoir les messages entre le client et le service. Dans un mode de realisation, les fonctions du service peuvent etre des methodes de programmation de langage informatique (p. ex. Java). Dans un autre mode de realisation, un message contenant une representation d'un appel de methode peut etre genere lorsqu'aucun appel de methode reel n'est effectue. Dans un autre mode de realisation encore, un appel de methode peut etre transforme en messages pouvant etre envoyes au service. Le service peut ignorer que les messages etaient generes a partir d'un appel de methode. Dans un autre mode de realisation enfin, un service peut transformer des messages necessitant des fonctions en appels de methode. Le client peut ignorer que le service appelle des methodes pour executer des fonctions.

Legal Status (Type, Date, Text)

Publication 20011129 A2 Without international search report and to be  
republished upon receipt of that report.  
Examination 20020131 Request for preliminary examination prior to end of  
19th month from priority date  
Search Rpt 20030227 Late publication of international search report  
Republication 20030227 A3 With international search report.  
Republication 20030227 A3 Before the expiration of the time limit for  
amending the claims and to be republished in the  
event of the receipt of amendments.

5/5/15 (Item 3 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00852848 \*\*Image available\*\*

**MECHANISM AND APPARATUS FOR WEB-BASED SEARCHING OF URI-ADDRESSABLE  
REPOSITORIES IN A DISTRIBUTED COMPUTING ENVIRONMENT**

**PROCEDE ET DISPOSITIF DE RECHERCHE DANS LE WEB DE SERVICES D'ARCHIVE  
ADRESSABLES PAR URI DANS UN ENVIRONNEMENT D'INFORMATIQUE DISTRIBUEE**

Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson Street, Palo Alto, CA 94306, US,  
**SAULPAUGH Thomas E** , 6938 Bret Harte Drive, San Jose, CA 95120, US,  
**TRAVERSAT Bernard A** , 2055 California Street, Apt. 402, San Francisco,  
CA 94109, US,

**ABDELAZIZ Mohamed M** , 78 Cabot Avenue, Santa Clara, CA 95051, US

Legal Representative:

KOWERT Robert C (agent), Conley, Rose & Tayon, P.C., P.O. Box 398,  
Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186487 A2-A3 20011115 (WO 0186487)

Application: WO 2001US15135 20010509 (PCT/WO US0115135)

Priority Application: US 2000202975 20000509; US 2000208011 20000526; US  
2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US  
2000653612 20000831

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ  
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG  
SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM  
Main International Patent Class: G06F-009/46  
International Patent Class: G06F-017/30  
Publication Language: English  
Filing Language: English  
Fulltext Availability:  
Detailed Description  
Claims  
Fulltext Word Count: 63258

#### English Abstract

A system and method for searching for Internet-based repositories within a distributed computing environment are provided. A client on a device may interact with a search service on the same or a different device to find spaces (i.e., network-accessible XML object repositories) for storage and/or retrieval of data. The client may send an XML search request to the search service. The search request may include one or more desired characteristics, such as keywords, which are sought of a space. Based upon the search request, the search service may generate search results including locations (e.g., URIs) of one or more resulting spaces. The spaces may include web pages. In generating the search results, the search service may interact with a network-accessible third-party search engine, such as a browser-accessible search engine. The search service may obtain a service advertisement for each of the resulting spaces. Each service advertisement includes information which is usable to access the respective space. The search service may send the search results, including the advertisements and/or URIs, to the client to enable the client to access the resulting spaces at their respective locations. The search service may store the search results in a results space and send the address of the results space to the client.

#### French Abstract

La presente invention concerne un systeme et un procede permettant de rechercher des services d'archives accessibles par Internet dans un environnement d'informatique distribuee. Un client sur in appareil peut interagir avec un service de recherche sur le meme appareil ou un appareil different de facon a trouver des espaces, c'est a dire des archives d'objets XML accessibles par reseau, a des fins de stockage et/ou de stockage de donnees. Le client peut envoyer au service de recherche une requete de recherche XML. La requete de recherche peut comporter une ou plusieurs caracteristiques desirees, telles que des mots cles, qui sont recherches dans un espace. Sur la base de la requete de recherche, le service de recherche peut generer des resultats de recherche incluant des emplacements, par exemple des identificateurs URI, d'un ou de plusieurs espaces resultants. Ces espaces peuvent inclure des pages web. En generant les resultats de recherche, le service de recherche peut interagit avec un moteur de recherche tiers accessible par reseau, tel qu'un moteur de recherche accessible par navigateur. Le service de recherche peut aboutir a une annonce de service pour chacun des espaces resultants. Chaque annonce de service comporte une information qui est utilisable pour acceder a l'espace considere. Le service de recherche peut envoyer au client des resultats de recherche, y-compris les annonces et/ou les identificateurs URI, pour permettre au client d'accéder aux espaces resultants en leurs differents emplacements. Le service de recherche peut stocker les resultats de recherche dans un espace de resultats et envoyer au client l'adresse de l'espace des resultats.

#### Legal Status (Type, Date, Text)

Publication	20011115	A2 Without international search report and to be republished upon receipt of that report.
Examination	20020214	Request for preliminary examination prior to end of 19th month from priority date
Search Rpt	20030130	Late publication of international search report
Republication	20030130	A3 With international search report.

5/5/16 (Item 4 from file: 349)  
DIALOG(R) File 349:PCT FULLTEXT  
(c) 2004 WIPO/Univentio. All rts. reserv.

00852847 \*\*Image available\*\*

**METHOD AND APPARATUS FOR PROXIMITY DISCOVERY OF SERVICES**  
**PROCEDE ET APPAREIL POUR DECOUVRIR LA PROXIMITE DE SERVICES**  
Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson St., Palo Alto, CA 94306, US,  
**SAULPAUGH Thomas E** , 6938 Bret Harte Dr., San Jose, CA 95120, US,  
**TRAVERSAT Bernard A** , 2055 California St., Apt. 402, San Francisco, CA  
94109, US,  
DUIGOU Michael J, 33928 Capulet Circle, Fremont, CA 94555, US,  
**ABDELAZIZ Mohamed M** , 78 Cabot Ave., Santa Clara, CA 95051, US

Legal Representative:

KOWERT Robert C (agent), Conley, Rose & Tayon, P.C., P.O. Box 398,  
Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186486 A2-A3 20011115 (WO 0186486)  
Application: WO 2001US15099 20010509 (PCT/WO US0115099)  
Priority Application: US 2000202975 20000509; US 2000208011 20000526; US  
2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US  
2000656588 20000907

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ  
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG  
SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/50

International Patent Class: G06F-017/30 ; G06F-009/46

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 64154

**English Abstract**

A service discovery protocol may allow clients to discover services on a proximity basis. A service device that provides one or more computing services may support a proximity communication link. A client device may form a proximity communication link with the service device. The client device may directly request from the service device a document that describes an interface to access a service provided by the service device. The service device may provide the document directly to the client device over proximity communication link. The document may include a service advertisement for the service, and the service advertisement may include a schema specifying an interface to at least a portion the service. The client device may use the information from the document to access the service. The client device may support a transport connection in addition to the proximity communication link, and the client device may make the document available to other devices over the transport connection. Thus, the client device may provide a bridge from the transport connection to the proximity communication link so that other devices from a distributed computing environment may access the service.

**French Abstract**

Un protocole de decouverte de services permet aux clients de decouvrir des services sur une base de proximite. Un dispositif de services fournissant un ou plusieurs services informatiques sert de support a un

lien de communication de proximite. Un dispositif client cree un lien de communication de proximite avec le dispositif de services. Le dispositif client demande directement au dispositif de services un document qui decrit une interface pour acceder a un service fourni par le dispositif de services. Ce dernier fournit le document directement au dispositif client via le lien de communication de proximite. Le document comporte une publicite sur le service, publicite qui presente un schema specifiant une interface vers au moins une partie dudit service. Le dispositif client utilise l'information dudit document pour acceder au service. Ce dispositif client sert de support, en plus du lien de communication de proximite, a une connexion de transport, par l'intermediaire de laquelle il met le document a disposition d'autres dispositifs. Ainsi, le dispositif client etablit un pont entre la connexion de transport et le lien de communication de proximite, de sorte que d'autres dispositifs appartenant a un environnement informatique distribue peuvent acceder audit service.

Legal Status (Type, Date, Text)

Publication 20011115 A2 Without international search report and to be republished upon receipt of that report.  
Search Rpt 20021121 Late publication of international search report  
Republication 20021121 A3 With international search report.  
Republication 20021121 A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.  
Examination 20030612 Request for preliminary examination prior to end of 19th month from priority date

5/5/17 (Item 5 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
(c) 2004 WIPO/Univentio. All rts. reserv.

00852803 \*\*Image available\*\*

**TRANSFORMATION OF OBJECTS BETWEEN A COMPUTER PROGRAMMING LANGUAGE AND A DATA REPRESENTATION LANGUAGE**  
**TRANSFORMATION D'OBJETS ENTRE UN LANGAGE DE PROGRAMMATION ET UN LANGAGE DE REPRESENTATION DE DONNEES**

Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson Street, Palo Alto, CA 94306, US,  
**SAULPAUGH Thomas E** , 6938 Bret Harte Drive, San Jose, CA 95120, US,  
**TRAVERSAT Bernard A** , 2055 California Street, Apt. 402, San Francisco, CA 94109, US,

**ABDELAZIZ Mohamed M** , 78 Cabot Avenue, Santa Clara, CA 95051, US,  
DUIGOU Michael J, 33928 Capulet Circle, Fremont, CA 94555, US

Legal Representative:

KOWERT Robert C (agent), Conley, Rose & Tayon, P.C., P.O. Box 398, Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186427 A2-A3 20011115 (WO 0186427)  
Application: WO 2001US15276 20010509 (PCT/WO US0115276)  
Priority Application: US 2000202975 20000509; US 2000208011 20000526; US 2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US 2000663563 20000915

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-009/44**

International Patent Class: **G06F-009/46**



Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

SLAUGHTER Gregory L , 3326 Emerson St., Palo Alto, CA 94306, US,  
SAULPAUGH Thomas E , 6938 Bret Harte Dr., San Jose, CA 95120, US,  
TRAVERSAT Bernard A , 2055 California St., Apt. 402, San Francisco, CA  
94109, US,  
ABDELAZIZ Mohamed M , 78 Cabot Ave., Santa Clara, CA 95051, US

Legal Representative:

KOWERT Robert C (agent), Conley, Rose & Tayon, P.C., P.O. Box 398,  
Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186425 A2-A3 20011115 (WO 0186425)  
Application: WO 2001US15206 20010509 (PCT/WO US0115206)  
Priority Application: US 2000202975 20000509; US 2000208011 20000526; US  
2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US  
2000660553 20000912

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG  
SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/46

International Patent Class: G06F-009/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 50804

English Abstract

Systems and methods for returning results of services within a distributed computing environment are provided. After a client invokes one or more functions of a service, results of the function(s) may be returned to the client in a plurality of ways: for example, in a message, in a space (e.g., a network-addressable storage location), in a space wherein the client is notified via an event, using an advertisement returned in a message, using an advertisement returned in a space, and using an advertisement returned in a space wherein the client is notified via an event. The advertisement may include the information necessary to access and read the results in a storage location such as a space. A schema for the service may specify a plurality of messages which are usable to invoke the function(s) of the service. The messages, results, and advertisements may be expressed in a platform-independent and/or programming-language-independent data representation language such as XML. The availability of these plurality of methods may enhance the flexibility and adaptability of the distributed computing environment for a variety of situations, such as for clients having differing capabilities. For additional flexibility, results may also be efficiently passed to another service.

French Abstract

La presente invention concerne des systemes et des procedes permettant de rendre des resultats de services dans un environnement informatique distribue. Apres qu'un client ait fait appel a une ou plusieurs fonctions d'un service, des resultats de la/des fonction(s) peuvent etre renvoyes au client de differentes facons: par exemple dans un message, dans un espace (par ex. un emplacement d'enregistrement adressable reseau), dans un espace dans lequel le client est averti par une manifestation, au moyen d'un avertissement renvoye dans un message, au moyen d'un avertissement renvoye dans un espace, et au moyen d'un avertissement renvoye dans un espace dans lequel le client est averti par une



manifestation. L'avertissement peut comprendre les informations nécessaires a l'accès et a la lecture des résultats dans un emplacement d'enregistrement tel qu'un espace. Un schéma du service peut spécifier une pluralité de messages qui peuvent être utilisés pour faire appel a la fonction/aux fonctions du service. Les messages, résultats, et avertissements peuvent être exprimés dans un langage de représentation de données indépendant de la plate-forme et/ou indépendant du langage de programmation, tel que XML. La disponibilité de cette pluralité de procédés peut permettre d'améliorer la flexibilité et l'adaptabilité de l'environnement informatique distribué pour différentes situations, telles pour des clients ayant des capacités différentes. Pour une meilleure flexibilité, les résultats peuvent également être transmis de manière efficace a un autre service.

Legal Status (Type, Date, Text)

Publication 20011115 A2 Without international search report and to be republished upon receipt of that report.  
Examination 20020131 Request for preliminary examination prior to end of 19th month from priority date  
Search Rpt 20021128 Late publication of international search report  
Republication 20021128 A3 With international search report.  
Republication 20021128 A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

5/5/19 (Item 7 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00852800 \*\*Image available\*\*

**DYNAMIC DISPLAY OBJECTS IN A DISTRIBUTED COMPUTING ENVIRONMENT**

**AFFICHAGES DYNAMIQUES DANS UN ENVIRONNEMENT D'INFORMATIQUE DISTRIBUEE**

Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson Street, Palo Alto, CA 94306, US,

**SAULPAUGH Thomas E** , 6938 Bret Harte Drive, San Jose, CA 95120, US,

**TRAVERSAT Bernard A** , Apartment 402, 2055 California Street, San Francisco, CA 94109, US,

**ABDELAZIZ Mohamed M** , 78 Cabot Avenue, Santa Clara, CA 95051, US

Legal Representative:

KOWERT Robert C (agent), Conley, Rose & Tayon, P.C., P.O. Box 398, Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186424 A2-A3 20011115 (WO 0186424)

Application: WO 2001US15137 20010509 (PCT/WO US0115137)

Priority Application: US 2000202975 20000509; US 2000208011 20000526; US 2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US 2000693321 20001019

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-017/30**

International Patent Class: **G06F-009/44**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 73634

#### English Abstract

A mechanism for describing dynamic display objects in a distributed computing environment is described. A service in a distributed computing environment may generate results data for a client in response to client requests. The service may provide schemas describing the presentation characteristics of results data. The schemas may include information for use in presenting the results data. The results data may include data elements, and the presentation schema may include presentation elements each including information describing the presentation characteristics of one or more of the data elements. The client may map data elements to corresponding presentation elements from the schema, and may use the element corresponding to a data element to present the data element. Using the dynamic display objects, display behavior may be altered without having to rebuild code.

#### French Abstract

La presente invention concerne un mecanisme de description d'objets d'affichage dynamique dans un environnement d'informatique distribuee. Un service dans un environnement d'informatique distribuee peut generer des donnees de resultats pour un client en reponse a des requetes du client. Le service peut fournir des schemas decrivant les caracteristiques de presentation des donnees de resultats. Ces schemas peuvent comporter de l'information s'utilisant pour la presentation des donnees de resultats. Les donnees de resultats peuvent inclure des elements de donnees, et les schemas de presentation peuvent inclure des elements de presentation incluant chacun de l'information decrivant les caracteristiques de presentation de l'un au moins des elements de donnees. Le client peut definir des liaisons entre elements de donnees et les elements de presentation correspondants issus du schema, et il peut utiliser l'element correspondant a un element de donnees pour presenter l'element de donnees. L'utilisation d'objets d'affichage dynamique permet de modifier un comportement a l'affichage sans avoir a reconstruire de code.

#### Legal Status (Type, Date, Text)

Publication 20011115 A2 Without international search report and to be republished upon receipt of that report.  
Examination 20020214 Request for preliminary examination prior to end of 19th month from priority date  
Search Rpt 20030123 Late publication of international search report  
Republication 20030123 A3 With international search report.

5/5/20 (Item 8 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00852798 \*\*Image available\*\*

**BRIDGING BETWEEN A DATA REPRESENTATION LANGUAGE MESSAGE-BASED DISTRIBUTED COMPUTING ENVIRONMENT AND OTHER ENVIRONMENTS**

**LIAISON ENTRE UN ENVIRONNEMENT INFORMATIQUE DISTRIBUE BASE SUR LA MESSAGERIE EN LANGAGE DE REPRESENTATION DES DONNEES ET D'AUTRES ENVIRONNEMENTS**

Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson St., Palo Alto, CA 94306, US,  
**SAULPAUGH Thomas E** , 6938 Bret Harte Dr., San Jose, CA 95120, US,  
**TRAVERSAT Bernard A** , 2055 California St., Apartmennt 402, San Francisco, CA 94109, US,

**ABDELAZIZ Mohamed M** , 78 Cabot Ave., Santa Clara, CA 95051, US,  
**DUIGOU Michael J**, 33928 Capulet Circle, Fremont, CA 94555, US

Legal Representative:

**KOWERT Robert C** (agent), Conley, Rose & Tayon, P.C., P.O. Box 398,  
Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186422 A2-A3 20011115 (WO 0186422)  
Application: WO 2001US15133 20010509 (PCT/WO US0115133)  
Priority Application: US 2000202975 20000509; US 2000208011 20000526; US  
2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US  
2000693672 20001019

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ  
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG  
SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-009/46**

International Patent Class: H04L-029/06

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 76340

#### English Abstract

Various embodiments of mechanisms for bridging data representation language messaging based distributed computing environments to foreign environments are described. A device proxy may implement a device protocol and a distributed computing environment protocol to bridge devices into the distributed computing environment. A client proxy is described that implements the distributed computing environment protocol on behalf of a foreign client such as a browser. A service proxy is described that implements the distributed computing environment protocol on behalf of a foreign service. A transport proxy is described that routes data representation language messages between two different message transports. A distributed computing environment client proxy may allow distributed computing environment clients to access Remote Method Invocation (RMI) -based environment services. An RMI-based environment client proxy may allow RMI-based environment clients to access distributed computing environment services.

#### French Abstract

L'invention concerne des mecanismes permettant de lier des environnements informatiques distribues bases sur la messagerie en langage de representation des donnees a des environnements etrangers. Un mandataire de dispositif peut mettre en application un protocole de dispositif et un protocole d'environnement informatique distribue pour lier des dispositifs dans l'environnement informatique distribue. Un mandataire de client met en application le protocole d'environnement informatique distribue au nom d'un client etranger, tel qu'un navigateur. Un mandataire de service met en application le protocole d'environnement informatique distribue au nom d'un service etranger. Un mandataire de transport achemine les messages en langage de representation des donnees entre deux transports de messages differents. Un mandataire de client d'un environnement informatique distribue peut permettre a des clients de l'environnement informatique distribue d'accéder a des services d'environnement bases sur une invocation de methode a distance (RMI). Un mandataire de client d'un environnement base sur une RMI peut permettre a des clients d'un environnement base sur une RMI d'accéder a des services d'environnement informatique distribue.

#### Legal Status (Type, Date, Text)

Publication 20011115 A2 Without international search report and to be republished upon receipt of that report.

Examination 20020131 Request for preliminary examination prior to end of 19th month from priority date

Search Rpt 20031204 Late publication of international search report

Republication 20031204 A3 With international search report.

Republication 20031204 A3 Before the expiration of the time limit for

amending the claims and to be republished in the  
event of the receipt of amendments.

5/5/21 (Item 9 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
(c) 2004 WIPO/Univentio. All rts. reserv.

00852797 \*\*Image available\*\*

**MESSAGE GATES IN A DISTRIBUTED COMPUTING ENVIRONMENT**

**PORTE DE MESSAGERIE EN ENVIRONNEMENT D'INFORMATIQUE DISTRIBUEE**

Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson Street, Palo Alto, CA 94306, US,  
**SAULPAUGH Thomas E** , 6938 Bret Harte Drive, San Jose, CA 95120, US,  
**TRAVERSAT Bernard A** , 2055 California Street, Apt. 402, San Francisco,  
CA 94109, US,  
**ABDELAZIZ Mohamed M** , 78 Cabot Avenue, Santa Clara, CA 95051, US

Legal Representative:

CONLEY ROSE & TAYON P C (agent), Kowert, Robert, C., P.O. Box 398,  
Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186421 A2-A3 20011115 (WO 0186421)

Application: WO 2001US15121 20010509 (PCT/WO US0115121)

Priority Application: US 2000202975 20000509; US 2000208011 20000526; US  
2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US  
2000653229 20000831

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/54

International Patent Class: G06F-001/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 64825

**English Abstract**

Embodiments of message gates are described. A message gate is the message endpoint for a client or service in a distributed computing environment. A message gate may provide a secure endpoint that sends and receives type-safe messages. Gates may perform the sending and receiving of messages between clients and services using a protocol specified in a service advertisement. In one embodiment, the messages are eXtensible Markup Language (XML) messages. For a client, a message gate represents the authority to use some or all of a service's capabilities. Each capability may be expressed in terms of a message that may be sent to the service. Creation of a message gate may involve an authentication service that generates an authentication credential, and that may negotiate the desired level of security and the set of messages that may be passed between client and service. A message gate may perform verification of messages against a message schema to ensure that the messages are allowed. Message gates may embed the authentication credential in outgoing messages so that the receiving message gate may authenticate the message. Messages may also include information to allow the receiving gate to verify that the message has not been compromised prior to receipt.

French Abstract

La presente invention concerne des modes de realisation de portes de messagerie. En l'occurrence, une porte de messagerie est le point extremite des messages pour un client ou un service dans un environnement d'informatique distribuee. Une porte de messagerie peut constituer un point extremite securise qui envoie et recoive des messages de type securise. Ces portes peuvent effectuer l'envoi et la reception des messages entre clients et services en utilisant un protocole specifie dans une annonce de service. Selon un mode de realisation, les messages sont des messages XML (eXtensible Markup Language). Pour un client, une porte de messagerie representant l'autorite devant utiliser en tout ou en partie les possibilites d'un service. Chaque aptitude peut etre exprimee en terme d'un message qui peut etre envoye au service. La creation d'une porte de messagerie peut impliquer un service d'authentification qui genere un titre de competences d'authentification, et qui peut negocier le niveau de securite voulu et l'ensemble de messages pouvant etre echanges entre le client et le service. Une porte de messagerie peut verifier des messages par rapport a un schema de messages de facon a garantir que les messages sont autorises. Les portes de messagerie peuvent inclure les titres de competences d'authentification dans les messages de sortie de facon que la porte de messagerie receptrice puisse authentifier le message. Les messages peuvent egalement inclure de l'information servant a permettre a la porte receptrice de verifier que l'integrite du message n'a pas ete compromise prealablement a sa reception.

Legal Status (Type, Date, Text)

Publication 20011115 A2 Without international search report and to be republished upon receipt of that report.

Examination 20020131 Request for preliminary examination prior to end of 19th month from priority date

Search Rpt 20030116 Late publication of international search report

Republication 20030116 A3 With international search report.

5/5/22 (Item 10 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00852796 \*\*Image available\*\*

**MECHANISM AND APPARATUS FOR ACCESSING AND ADDRESSING SERVICES IN A DISTRIBUTED COMPUTING ENVIRONMENT**

**MECANISME ET APPAREIL D'ACCES ET D'ADRESSAGE DE SERVICES DANS UN ENVIRONNEMENT INFORMATIQUE REPARTI**

Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson Street, Palo Alto, CA 94306, US,  
**SAULPAUGH Thomas E** , 6938 Bret Harte Drive, San Jose, CA 95120, US,  
**TRAVERSAT Bernard A** , 2055 California Street, Apt. 402, San Francisco, CA 94109, US,

**ABDELAZIZ Mohamed M** , 78 Cabot Avenue, Santa Clara, CA 95051, US

Legal Representative:

KOWERT Robert C (agent), Conley, Rose & Tayon, P.C., P.O. Box 398, Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186420 A2-A3 20011115 (WO 0186420)

Application: WO 2001US15044 20010509 (PCT/WO US0115044)

Priority Application: US 2000202975 20000509; US 2000208011 20000526; US 2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US 2000660563 20000912

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-009/46**

International Patent Class: **G06F-017/30**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 65191

#### English Abstract

A system and method for advertising, addressing, and/or accessing services in a distributed computing environment are provided. A service advertisement includes substantially all the information needed by a client to access a particular service. A service may publish the service advertisement in a space which stores documents such as e xtensible Markup Language (XML) documents. The advertisement may include a Uniform Resource Identifier (URI) and an XML schema for the service. The schema specifies XML messages which are usable to invoke functions of the service. A client may access the space and read the advertisement. The client may use the URI and the schema in the advertisement to construct a gate for access to the service. The client may send a first XML message to the service at the URI, wherein the first XML message is specified in the XML schema, to invoke one or more functions of the service. In response, the function(s) of the service may be invoked. The service may send a second XML message (e.g., a message including the results of the invoked function(s)) to the client, wherein the second XML message is specified in the XML schema for the service.

#### French Abstract

L'invention concerne un systeme et un procede d'annonce publicitaire, d'adressage et/ou d'accès a des services dans un environnement informatique repartí. Une annonce publicitaire de service comprend pratiquement toutes les informations necessaires a un client pour accéder a un service spécifique. Un service peut publier ladite annonce publicitaire dans un espace stockant des documents, tels que des documents en langage XML. L'annonce publicitaire peut comprendre un identificateur de ressources uniformes (URI) et un schema XML pour ledit service. Ce schema specifie des messages XML pouvant étre utilisés pour appeler des fonctions du service. Un client peut accéder a l'espace et lire l'annonce publicitaire. Ledit client peut utiliser l'URI et le schema dans l'annonce publicitaire pour construire une porte d'accès au service. Le client peut envoyer un premier message XML au service au niveau de l'URI, ou le premier message XML est specifie dans le schema XML, pour appeler une ou plusieurs fonctions du service. En reponse, la ou les fonctions du service peuvent étre appelees. Ledit service peut envoyer au client un second message XML (p. ex., un message comprenant les resultats de la ou des fonctions appelees), ledit second message XML étant specifie dans le schema XML pour le service.

#### Legal Status (Type, Date, Text)

Publication	20011115	A2 Without international search report and to be republished upon receipt of that report.
Examination	20021114	Request for preliminary examination prior to end of 19th month from priority date
Search Rpt	20021128	Late publication of international search report
Republication	20021128	A3 With international search report.
Republication	20021128	A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

5/5/23 (Item 11 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00852779      \*\*Image available\*\*

**METHOD AND APPARATUS TO OBTAIN SERVICE CAPABILITY CREDENTIALS**

**PROCEDE ET APPAREIL PERMETTANT D'OBTENIR DES TITRES ACCREDITIFS RELATIFS A  
DES CAPACITES DE SERVICES**

Patent Applicant/Assignee:

SUN MICROSYSTEMS INC, 901 San Antonio Road, Palo Alto, CA 94303, US, US  
(Residence), US (Nationality)

Inventor(s):

**SLAUGHTER Gregory L** , 3326 Emerson Street, Palo Alto, CA 94306, US,  
**SAULPAUGH Thomas E** , 6938 Bret Harte Drive, San Jose, CA 95120, US,  
**TRAVERSAT Bernard A** , 2055 California Street, Apt. 402, San Francisco,  
CA 94109, US,  
**ABDELAZIZ Mohamed M** , 78 Cabot Avenue, Santa Clara, CA 95051, US

Legal Representative:

KOWERT Robert C (agent), Conley, Rose & Tayon, P.C., P.O. Box 398,  
Austin, TX 78767-0398, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200186394 A2-A3 20011115 (WO 0186394)

Application: WO 2001US15134 20010509 (PCT/WO US0115134)

Priority Application: US 2000202975 20000509; US 2000208011 20000526; US  
2000209430 20000602; US 2000209140 20000602; US 2000209525 20000605; US  
2000653215 20000831

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-001/00**

International Patent Class: **G06F-009/46**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 65219

**English Abstract**

A service discovery mechanism may allow clients in a distributed computing environment to search for services. The service discovery mechanism may allow a client to request a capability credential from a service. In one embodiment, the client may present to the service a set of desired capabilities. The service may then respond with a capability credential that may convey to the client the rights to use the requested capabilities. A complete service advertisement may be needed to create a message endpoint for accessing the service. In an embodiment, the capability credential may be used by a client to obtain a complete advertisement for the requested capabilities. The capability credential may provide an additional level of security for the service provider. The capability credential that may be used to receive the complete advertisement may also be used to construct a message gate to communicate with the service where the gate embeds the capability credential in each message to the service.

**French Abstract**

L'invention se rapporte a un mecanisme de recherche de services qui peut permettre a des clients dans un environnement informatique repartit de rechercher des services. Ce mecanisme de recherche de services peut permettre a un client de demander un titre accredatif relatif a la capacite d'un service. Dans une realisation, le client peut presenter au service un ensemble de capacites souhaitees. Le service peut alors repondre avec un titre accredatif de capacite qui peut transmettre au client les droits d'utilisation des capacites demandees. Une publicite complete relative au service peut etre necessaire pour creer un point

terminal de message permettant d'accéder au service. Dans une réalisation, le titre accreditif relatif à la capacité peut être utilisé par un client pour obtenir une publicité complète pour les capacités demandées. Le titre accreditif de capacité peut fournir un niveau de sécurité supplémentaire pour le fournisseur de services. Ce titre peut également être utilisé pour recevoir la publicité complète et pour construire une porte de messages permettant la communication avec le service, ladite porte incorporant ledit titre accreditif de capacité dans chaque message à destination du service.

Legal Status (Type, Date, Text)

Publication 20011115 A2 Without international search report and to be republished upon receipt of that report.  
Examination 20020214 Request for preliminary examination prior to end of 19th month from priority date  
Search Rpt 20030103 Late publication of international search report  
Republication 20030103 A3 With international search report.

5/5/24 (Item 1 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015766797 \*\*Image available\*\*

WPI Acc No: 2003-828999/200377

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;  
2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-055779;  
2002-226664; 2002-256546; 2002-256547; 2002-256548; 2002-256553;  
2002-256554; 2002-256557; 2002-256558

XRFX Acc No: N03-662298

Document searching method for personal digital assistant, involves transmitting lookup message comprising set of discovered XML advertisements, to client through network

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; DUIGOU M J; SAULPAUGH T E ; SLAUGHTER G L ;

TRAVERSAT B A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6643650	B1	20031104	US 2000202975	P	20000509	200377 B
			US 2000208011	P	20000526	
			US 2000209140	P	20000602	
			US 2000209430	P	20000602	
			US 2000209525	P	20000605	
			US 2000660548	A	20000912	

Priority Applications (No Type Date): US 2000660548 A 20000912; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602 ; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6643650	B1	101	G06F-017/30		Provisional application US 2000202975 Provisional application US 2000208011 Provisional application US 2000209140 Provisional application US 2000209430 Provisional application US 2000209525

Abstract (Basic): US 6643650 B1

NOVELTY - A lookup message specifying desired characteristics of XML advertisement (132) comprising information about access of particular service (112), is transmitted to a space (114), through network. A set of discovered XML advertisements comprising transmitted advertisements having desired characteristics, is determined. The look-up message comprising set of discovered advertisements, is transmitted to a client (110).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:



(1) document searching system; and  
(2) carrier medium storing document searching program  
USE - For searching documents in computing devices such as personal digital assistant, mobile phone, notebook computer, laptop computer, desktop computer, workstation, mainframe computer and super computer.

ADVANTAGE - Enables transmitting the lookup messages comprising desired XML advertisement, easily and reliably.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the document searching system.

client (110)  
service (112)  
space (114)  
XML advertisement (132)  
pp; 101 DwgNo 8/48

Title Terms: DOCUMENT; SEARCH; METHOD; PERSON; DIGITAL; ASSIST; TRANSMIT; MESSAGE; COMPRISE; SET; DISCOVER; ADVERTISE; CLIENT; THROUGH; NETWORK

Derwent Class: T01

International Patent Class (Main): G06F-017/30

International Patent Class (Additional): G06F-015/00 ; G06F-017/60

File Segment: EPI

5/5/25 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014708484 \*\*Image available\*\*

WPI Acc No: 2002-529188/200256

Related WPI Acc No: 2003-405304

XRPX Acc No: N02-419099

**Peer computing system for peer-to-peer networking has at least a subset of the peer nodes configured to participate in a peer discovery protocol to discover other peer nodes**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM ); ABDELAZIZ M M (ABDE-I); CLARY M J (CLAR-I); DUIGOU M J (DUIG-I); GONG L (GONG-I); HUGLY J (HUGL-I); JOY W N (JOYW-I); POUYOUL E (POUY-I); TRAVERSAT B A (TRAV-I); YEAGER W J (YEAG-I); PABLA K (PABL-I); SAULPAUGH T E (SAUL-I); SLAUGHTER G L (SLAU-I); CHEN R Y (CHEN-I)

Inventor: ABDELAZIZ M M ; CLARY M J; DUIGOU M J; GONG L; HUGLY J; JOY W N; POUYOUL E; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A ; YEAGER W J; PABLA K; SAULPAUGH ; CHEN R Y

Number of Countries: 101 Number of Patents: 020

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200257917	A2	20020725	WO 2002US1362	A	20020118	200256 B
EP 1229442	A2	20020807	EP 2002250431	A	20020122	200259
EP 1229443	A2	20020807	EP 2002250432	A	20020122	200259
US 20020143855	A1	20021003	US 2001263573	P	20010122	200267
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255097	A	20020122	
US 20020143944	A1	20021003	US 2001263573	P	20010122	200267
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200254809	A	20020122	
US 20020147771	A1	20021010	US 2001263573	P	20010122	200269
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255773	A	20020122	
US 20020147810	A1	20021010	US 2001263573	P	20010122	200269
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255741	A	20020122	

US 20020152299	A1	20021017	US 2001263573	P	20010122	200270
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255650	A	20020122	
US 20020156893	A1	20021024	US 2001263573	P	20010122	200273
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200254809	A	20020122	
			US 200255547	A	20020122	
			US 200255641	A	20020122	
			US 200255645	A	20020122	
			US 200255662	A	20020122	
			US 200255741	A	20020122	
			US 200255773	A	20020122	
			US 2002164259	A	20020605	
US 20020184310	A1	20021205	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255547	A	20020122	
US 20020184311	A1	20021205	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255645	A	20020122	
US 20020184357	A1	20021205	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255641	A	20020122	
US 20020184358	A1	20021205	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255662	A	20020122	
US 20020188657	A1	20021212	US 2001263573	P	20010122	200301
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255666	A	20020122	
US 20030002521	A1	20030102	US 2001263573	P	20010122	200305
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255649	A	20020122	
US 20030041141	A1	20030227	US 2001263573	P	20010122	200318
			US 2001268893	P	20010214	
			US 2001286225	P	20010424	
			US 2001308932	P	20010731	
			US 200255662	A	20020122	
			US 200255666	A	20020122	
			US 200255741	A	20020122	
			US 2002164259	A	20020605	
			US 2002263923	A	20021003	
US 20030055894	A1	20030320	US 2001308932	P	20010731	200323
			US 2002165244	A	20020607	
US 20030055898	A1	20030320	US 2001308932	P	20010731	200323
			US 2002165330	A	20020607	
US 20030070070	A1	20030410	US 2001308932	P	20010731	200327
			US 2002165019	A	20020607	
AU 2002234258	A1	20020730	AU 2002234258	A	20020118	200427

Priority Applications (No Type Date): US 2001308932 P 20010731; US 2001263573 P 20010122; US 2001268893 P 20010214; US 2001286225 P 20010424; US 200255097 A 20020122; US 200254809 A 20020122; US 200255773 A

20020122; US 200255741 A 20020122; US 200255650 A 20020122; US 200255547  
A 20020122; US 200255641 A 20020122; US 200255645 A 20020122; US  
200255662 A 20020122; US 2002164259 A 20020605; US 200255666 A 20020122;  
US 200255649 A 20020122; US 2002263923 A 20021003; US 2002165244 A  
20020607; US 2002165330 A 20020607; US 2002165019 A 20020607

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200257917 A2 E 90 G06F-009/46

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA  
ZM ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

EP 1229442 A2 E G06F-009/46

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

EP 1229443 A2 E G06F-009/46

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

US 20020143855 A1 G06F-015/16 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020143944 A1 G06F-015/173 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020147771 A1 G06F-015/16 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020147810 A1 G06F-015/173 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020152299 A1 G06F-015/173 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020156893 A1 G06F-015/173 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932  
CIP of application US 200254809  
CIP of application US 200255547  
CIP of application US 200255641  
CIP of application US 200255645  
CIP of application US 200255662  
CIP of application US 200255741  
CIP of application US 200255773

US 20020184310 A1 G06F-015/16 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020184311 A1 G06F-015/16 Provisional application US 2001263573  
Provisional application US 2001268893  
Provisional application US 2001286225  
Provisional application US 2001308932

US 20020184357 A1	G06F-015/173	Provisional application US 2001263573
		Provisional application US 2001268893
		Provisional application US 2001286225
		Provisional application US 2001308932
US 20020184358 A1	G06F-015/173	Provisional application US 2001263573
		Provisional application US 2001268893
		Provisional application US 2001286225
		Provisional application US 2001308932
US 20020188657 A1	G06F-015/16	Provisional application US 2001263573
		Provisional application US 2001268893
		Provisional application US 2001286225
		Provisional application US 2001308932
US 20030002521 A1	H04J-003/16	Provisional application US 2001263573
		Provisional application US 2001268893
		Provisional application US 2001286225
		Provisional application US 2001308932
US 20030041141 A1	G06F-015/173	Provisional application US 2001263573
		Provisional application US 2001268893
		Provisional application US 2001286225
		Provisional application US 2001308932
		CIP of application US 200255662
		CIP of application US 200255666
		CIP of application US 200255741
		CIP of application US 2002164259
US 20030055894 A1	G06F-015/16	Provisional application US 2001308932
US 20030055898 A1	G06F-015/16	Provisional application US 2001308932
US 20030070070 A1	H04L-009/00	Provisional application US 2001308932
AU 2002234258 A1	G06F-009/46	Based on patent WO 200257917

Abstract (Basic): WO 200257917 A2

NOVELTY - The system includes several peer nodes. At least a subset of the peer nodes are configured to participate in a peer discovery protocol to discover other peer nodes. At least a subset of the peer nodes are configured to participate in a peer membership protocol for joining or forming a peer group with other peer nodes.

The member peer nodes in the peer group are configured to find and exchange content in the peer group.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for an article manufacture, for a method of discovering peer nodes on a peer-to-peer network and for a carrier medium.

USE - For peer-to-peer networking.

ADVANTAGE - Provides mechanisms through which peers may discover each other, communicate with each other and cooperate with each other to form peer groups.

DESCRIPTION OF DRAWING(S) - The figure shows peer-to-peer platform software architecture.

pp; 90 DwgNo 29/32

Title Terms: PEER; COMPUTATION; SYSTEM; PEER; PEER; SUBSET; PEER; NODE; CONFIGURATION; PARTICIPATING; PEER; DISCOVER; PROTOCOL; DISCOVER; PEER; NODE

Derwent Class: T01; W01

International Patent Class (Main): G06F-009/46 ; G06F-015/16 ; G06F-015/173 ; H04J-003/16; H04L-009/00

International Patent Class (Additional): G06F-017/60 ; H04L-012/56

File Segment: EPI

(c) 2004 Thomson Derwent. All rts. reserv.

014435851 \*\*Image available\*\*

WPI Acc No: 2002-256554/200230

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;  
2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-055779;  
2002-226664; 2002-256546; 2002-256547; 2002-256548; 2002-256553;  
2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-198547

**Data presentation method for distributed computing system, involves  
accessing processed data generated by service to present accessed data to  
clients based on information in presentation schema**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186424	A2	20011115	WO 2001US15137	A	20010509	200230 B
AU 200159719	A	20011120	AU 200159719	A	20010509	200230
EP 1297413	A2	20030402	EP 2001933282	A	20010509	200325
			WO 2001US15137	A	20010509	

Priority Applications (No Type Date): US 2000693321 A 20001019; US  
2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602  
; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
-----------	------	--------	----------	--------------

WO 200186424	A2	E 164	G06F-009/00	
--------------	----	-------	-------------	--

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200159719	A		G06F-009/00	Based on patent WO 200186424
--------------	---	--	-------------	------------------------------

EP 1297413	A2	E	G06F-009/00	Based on patent WO 200186424
------------	----	---	-------------	------------------------------

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200186424 A2

NOVELTY - A presentation schema including information for  
presenting processed data to clients corresponding to the services, is  
accessed. The processed data generated by the service are accessed and  
presented to the clients in accordance with the information from the  
presentation schema.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
following:

- (a) Distributed computing system;
- (b) Data presentation device;
- (c) Carrier medium storing data presentation program

USE - For distributed computing system for providing services to  
the clients, relating to information about local restaurants, weather,  
traffic, maps, movie, local news, malls, etc. Also for computer  
resources such as printers, Internet access video on demand, e-commerce  
etc., through intelligent devices such as personal digital assistants  
(PDA), cell phones, lap top computers, desk top computers, work  
stations, mainframes, super computers.

ADVANTAGE - The service relating to desired information are  
provided efficiently to the clients based on the presentation schema.

DESCRIPTION OF DRAWING(S) - The figure shows the examples of schema  
for presenting data in distributed computing system.

pp; 164 DwgNo 32A/51

Title Terms: DATA; PRESENT; METHOD; DISTRIBUTE; COMPUTATION; SYSTEM; ACCESS  
; PROCESS; DATA; GENERATE; SERVICE; PRESENT; ACCESS; DATA; CLIENT; BASED;  
INFORMATION; PRESENT

Derwent Class: T01; W01; W02

International Patent Class (Main): G06F-009/00

File Segment: EPI

5/5/27 (Item 4 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014435850 \*\*Image available\*\*

WPI Acc No: 2002-256553/200230

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;  
2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-055779;  
2002-226664; 2002-256546; 2002-256547; 2002-256548; 2002-256554;  
2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-198546

**Message communication for distributed computing environment, involves sending message after verification for type correctness attached with authentication credential identifying message source to specific destination**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T ; SLAUGHTER G L ; TRAVERSAT B A ;  
SAULPAUGH T E

Number of Countries: 093 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186421	A2	20011115	WO 2001US15121	A	20010509	200230 B
AU 200163037	A	20011120	AU 200163037	A	20010509	200230
GB 2381100	A	20030423	WO 2001US15121	A	20010509	200329
			GB 200228528	A	20021206	

Priority Applications (No Type Date): US 2000653229 A 20000831; US  
2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602  
; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186421 A2 E 140 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200163037 A G06F-009/00 Based on patent WO 200186421

GB 2381100 A G06F-009/54 Based on patent WO 200186421

Abstract (Basic): WO 200186421 A2

NOVELTY - A message in a data representation language, is received from a source. The type correctness of the message, is verified based on a data representation language schema and an authentication credential which identifies the source is attached to the message, after which the message is transmitted to a specific destination.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Message communication device;

(b) Recording medium storing message communication program

USE - For communicating messages between web-centric, Internet-centric distributed computing environments including heterogeneous intelligent devices such as personal digital assistants, laptop computers, cellular phones, mainframe, super-computers, etc.

ADVANTAGE - Enables asynchronous message transmission by embedding state representation in message streams between sender and receiver and thereby avoids errors and the need for TCPs. Enables participation of thin clients also in the distributed computing environment by adding a thin messaging layer above a basic networking protocol stack.

Implements secure communication by providing authentication mechanisms in message gates and authentication credentials in the message to be transmitted between a client and service. Implements an automatic lease renewal mechanism to relieve the client of the complex responsibility

of handling out of band messages.

DESCRIPTION OF DRAWING(S) - The figure shows an illustration of the possible gate components used in communication method.

pp; 140 DwgNo 12/43

Title Terms: MESSAGE; COMMUNICATE; DISTRIBUTE; COMPUTATION; ENVIRONMENT;  
SEND; MESSAGE; AFTER; VERIFICATION; TYPE; CORRECT; ATTACH; AUTHENTICITY;  
IDENTIFY; MESSAGE; SOURCE; SPECIFIC; DESTINATION

Derwent Class: T01; W01

International Patent Class (Main): G06F-009/00 ; G06F-009/54

File Segment: EPI

5/5/28 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014435844 \*\*Image available\*\*

WPI Acc No: 2002-256547/200230

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;  
2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-055779;  
2002-226664; 2002-256546; 2002-256548; 2002-256553; 2002-256554;  
2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-198540

Service access method in distributed computing environment, involves  
using capability credential to access one or more portion of service's  
capabilities on receiving capability credential

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186394	A2	20011115	WO 2001US15134	A	20010509	200230 B
AU 200161388	A	20011120	AU 200161388	A	20010509	200230
EP 1287423	A2	20030305	EP 2001935280	A	20010509	200319
			WO 2001US15134	A	20010509	

Priority Applications (No Type Date): US 2000653215 A 20000831; US  
2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602  
; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 200186394	A2	E	144	G06F-001/00	
--------------	----	---	-----	-------------	--

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200161388	A			G06F-001/00	Based on patent WO 200186394
--------------	---	--	--	-------------	------------------------------

EP 1287423	A2	E		G06F-001/00	Based on patent WO 200186394
------------	----	---	--	-------------	------------------------------

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200186394 A2

NOVELTY - A service is located within a distributed computing environment by a client. The client requests a capability credential to allow the client to access a portion of the service. On receiving the capability credential, the client accesses one or more portion of the service's capabilities using the capability credential.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Client device;

(b) Carrier medium storing service access program

USE - In distributed computing environments including web-centric and Internet-centric distributed computing environments, particularly for heterogeneous distributed computing environment and for intelligent devices such as personal digital assistants (PDAs), cell phones, lap

top computers, desk top computer, workstations, main frames, super computers, etc., used for business and home.

ADVANTAGE - Allows client to access the desired service's capabilities.

DESCRIPTION OF DRAWING(S) - The figure shows the comparison between the difference in the discover process when the published advertisement is a complete advertisement versus a protected advertisement.

pp; 144 DwgNo 43/45

Title Terms: SERVICE; ACCESS; METHOD; DISTRIBUTE; COMPUTATION; ENVIRONMENT;

CAPABLE; ACCESS; ONE; MORE; PORTION; SERVICE; CAPABLE; RECEIVE; CAPABLE

Derwent Class: T01; W01

International Patent Class (Main): G06F-001/00

File Segment: EPI

5/5/29 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014235081 \*\*Image available\*\*

WPI Acc No: 2002-055779/200207

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;

2002-034659; 2002-034661; 2002-041620; 2002-041621; 2002-226664;

2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;

2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-041060

Method for remotely invoking functions in heterogeneous distributed computing environment, involves sending message containing computer programming language method call to service performing function on behalf of client

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200190883	A2	20011129	WO 2001US15120	A	20010509	200207 B
AU 200163036	A	20011203	AU 200163036	A	20010509	200221
EP 1314085	A2	20030528	EP 2001937284	A	20010509	200336
			WO 2001US15120	A	20010509	
JP 2003534597	W	20031118	JP 2001587207	A	20010509	200401
			WO 2001US15120	A	20010509	

Priority Applications (No Type Date): US 2000672200 A 20000927; US

2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602

; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200190883 A2 E 159 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200163036 A G06F-009/00 Based on patent WO 200190883

EP 1314085 A2 E G06F-009/00 Based on patent WO 200190883

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003534597 W 287 G06F-009/44 Based on patent WO 200190883

Abstract (Basic): WO 200190883 A2

NOVELTY - A client generates and transmits message which includes information representing a computer programming language method call, to a service. The service performs function on behalf of the client according to the information representing the method call included in the transmitted message.



DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Distributed computing system;
- (b) Functions remotely invoking device;
- (c) Recorded medium storing computer executable program

instructions

USE - For remotely invoking functions in heterogeneous distributed computing environment including web-centric and Internet-centric distributed computing environments.

ADVANTAGE - Enables the clients to find transient documents and services by providing a mechanism to find general purpose documents which are expressed in a platform-independent and language-independent typing such as that provided by XML. Allows remote Java objects to behave as local Java object by provision of method gates. Enables clients to invoke computer programming language method on a service without actually generating computer programming language method call.

DESCRIPTION OF DRAWING(S) - The figure illustrates the use of method gate to provide a remote method invocation interface to a service.

pp; 159 DwgNo 14/48

Title Terms: METHOD; REMOTE; INVOKE; FUNCTION; HETEROGENEOUS; DISTRIBUTE; COMPUTATION; ENVIRONMENT; SEND; MESSAGE; CONTAIN; COMPUTER; PROGRAM; LANGUAGE; METHOD; CALL; SERVICE; PERFORMANCE; FUNCTION; CLIENT

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-009/44

International Patent Class (Additional): G06F-009/46 ; G06F-015/16

File Segment: EPI

5/5/30 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014220923 \*\*Image available\*\*

WPI Acc No: 2002-041621/200205

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658; 2002-034659; 2002-034661; 2002-041620; 2002-055779; 2002-226664; 2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554; 2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-030845

Web-based search method for accessing traffic, weather information, involves sending search request including one or more desired characteristic space of client, in extensible markup language, to search service

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 093 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186487	A2	20011115	WO 2001US15135	A	20010509	200205 B
AU 200161389	A	20011120	AU 200161389	A	20010509	200219

Priority Applications (No Type Date): US 2000653612 A 20000831; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602 ; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186487 A2 E 139 G06F-017/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200161389 A G06F-017/00 Based on patent WO 200186487

Abstract (Basic): WO 200186487 A2

NOVELTY - A search request is sent to a search service expressed in data representation language, comprises one or more desired characteristic of space. The space comprises an Internet accessible repository which stores service advertisements information for a service access. The search service is executed and results comprising location of resulting spaces based on the search request.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Recording medium which stores program instructions;
- (b) Web-based searching system

USE - For searching web for locating information about shopping malls, movies, theaters, local news, weather, traffic, restaurants, maps, etc.

ADVANTAGE - Provides interaction between clients and services on the same or different devices to find network accessible data repositories for storage and retrieval of data.

DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram of process involved in search service.

pp; 139 DwgNo 43/46

Title Terms: WEB; BASED; SEARCH; METHOD; ACCESS; TRAFFIC; WEATHER; INFORMATION; SEND; SEARCH; REQUEST; ONE; MORE; CHARACTERISTIC; SPACE; CLIENT; EXTEND; LANGUAGE; SEARCH; SERVICE

Derwent Class: T01

International Patent Class (Main): G06F-017/00

File Segment: EPI

5/5/31 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014220922 \*\*Image available\*\*

WPI Acc No: 2002-041620/200205

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658; 2002-034659; 2002-034661; 2002-041621; 2002-055779; 2002-226664; 2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554; 2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-030844

Proximity service accessing method using Internet, receives information regarding service access from service device through direct point to point communication link, based on which service is accessed by client

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; DUIGOU M J; SAULPAUGH T E ; SLAUGHTER G L ;

TRAVERSAT B A

Number of Countries: 094 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186486	A2	20011115	WO 2001US15099	A	20010509	200205 B
AU 200163033	A	20011120	AU 200163033	A	20010509	200219
EP 1285354	A2	20030226	EP 2001937281	A	20010509	200319
			WO 2001US15099	A	20010509	
JP 2004501428	W	20040115	JP 2001583361	A	20010509	200410
			WO 2001US15099	A	20010509	
EP 1285354	B1	20040303	EP 2001937281	A	20010509	200417
			WO 2001US15099	A	20010509	
DE 60102234	E	20040408	DE 602234	A	20010509	200425
			EP 2001937281	A	20010509	
			WO 2001US15099	A	20010509	

Priority Applications (No Type Date): US 2000656588 A 20000907; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602 ; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186486 A2 E 145 G06F-017/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA

CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
 KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
 RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW  
 Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
 IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW  
 AU 200163033 A Based on patent WO 200186486  
 EP 1285354 A2 E G06F-017/00 Based on patent WO 200186486  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE SI TR  
 JP 2004501428 W 276 G06F-013/00 Based on patent WO 200186486  
 EP 1285354 B1 E G06F-017/00 Based on patent WO 200186486  
 Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
 LU MC NL PT SE TR  
 DE 60102234 E G06F-017/00 Based on patent EP 1285354  
 Based on patent WO 200186486

Abstract (Basic): WO 200186486 A2

NOVELTY - A request send to a service device (2170) from a client device (2150) comprises a document describing an interface to access a service. The document has the information about the service access. The requesting and receiving are performed through direct point to point communication link. The service is accessed by the client using the received information.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Proximity service access system;
- (b) Client device;
- (c) Service device;
- (d) Carrier medium storing service access program instructions

USE - For accessing services to locate information about restaurants, weather, maps, traffic, movie information, etc.

ADVANTAGE - Enables the client to directly look for service advertisements without using separate, widely available rendezvous points. By providing a bridge connection, service is accessed by other devices from a distributed computing environment.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of proximity service accessing system.

Client device (2150)  
 Service device (2170)  
 pp; 145 DwgNo 44/45

Title Terms: PROXIMITY; SERVICE; ACCESS; METHOD; RECEIVE; INFORMATION;  
 SERVICE; ACCESS; SERVICE; DEVICE; THROUGH; DIRECT; POINT; POINT;  
 COMMUNICATE; LINK; BASED; SERVICE; ACCESS; CLIENT

Derwent Class: T01

International Patent Class (Main): G06F-013/00 ; G06F-017/00

International Patent Class (Additional): H04L-012/28

File Segment: EPI

5/5/32 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014213963 \*\*Image available\*\*

WPI Acc No: 2002-034661/200204

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;  
 2002-034659; 2002-041620; 2002-041621; 2002-055779; 2002-226664;  
 2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;  
 2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-026646

Computer programming language object representation method in data representation language, involves converting objects into corresponding data representation language representation for generating copy of object  
 Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; DUGOU M J; SAULPAUGH T E ; SLAUGHTER G L ;

TRAVERSAT B A

Number of Countries: 094 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186427	A2	20011115	WO 2001US15276	A	20010509	200204 B
AU 200163064	A	20011120	AU 200163064	A	20010509	200219
EP 1290547	A2	20030312	EP 2001937315	A	20010509	200320
			WO 2001US15276	A	20010509	
JP 2003533767	W	20031111	JP 2001583309	A	20010509	200375
			WO 2001US15276	A	20010509	
EP 1290547	B1	20040107	EP 2001937315	A	20010509	200405
			WO 2001US15276	A	20010509	
			EP 200321805	A	20010509	
EP 1380941	A2	20040114	EP 2001937315	A	20010509	200410
			EP 200321805	A	20010509	
DE 60101740	E	20040212	DE 601740	A	20010509	200419
			EP 2001937315	A	20010509	
			WO 2001US15276	A	20010509	

Priority Applications (No Type Date): US 2000663563 A 20000915; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602 ; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200186427	A2	E 162	G06F-009/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW				
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW				
AU 200163064	A			Based on patent WO 200186427
EP 1290547	A2	E	G06F-009/00	Based on patent WO 200186427
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR				
JP 2003533767	W	289	G06F-009/44	Based on patent WO 200186427
EP 1290547	B1	E	G06F-009/00	Related to application EP 200321805 Based on patent WO 200186427
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR				
EP 1380941	A2	E	G06F-009/44	Div ex application EP 2001937315 Div ex patent EP 1290547
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR				
DE 60101740	E		G06F-009/00	Based on patent EP 1290547 Based on patent WO 200186427

Abstract (Basic): WO 200186427 A2

NOVELTY - A Java object (1510) which is an instance of class in programming language, is provided to a Java virtual machine (JVM) for compilation. The Java object is converted into corresponding data representation language representation for generating a copy of object.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Computer programming language object generation method;
- (b) Parsing method of computer programming language object between processes in distributed computing environment;
- (c) Programming language objects representation device;
- (d) Distributed computing system;
- (e) Carrier medium storing objects representation program;
- (f) Carrier medium storing objects generation program;
- (g) Carrier medium storing objects parsing program

USE - For representing computer programming language objects in data representation language in network connected to personal digital assistants, cell phones, laptop computers, desktop computer, main frames, super computer, etc.

ADVANTAGE - Since JVM is used for compilation, reuse codes are used in parsing object graph, and need for duplicate functionality is eliminated. The object is compiled by a single call to computer

application programming interface (API), quickly and efficiently using reflection and serialization process.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of object representing system in client-server environment.

Java object (1510)

pp; 162 DwgNo 34/48

Title Terms: COMPUTER; PROGRAM; LANGUAGE; OBJECT; REPRESENT; METHOD; DATA; REPRESENT; LANGUAGE; CONVERT; OBJECT; CORRESPOND; DATA; REPRESENT; LANGUAGE; REPRESENT; GENERATE; COPY; OBJECT

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-009/44

International Patent Class (Additional): G06F-009/45

File Segment: EPI

5/5/33 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014213961 \*\*Image available\*\*

WPI Acc No: 2002-034659/200204

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034657; 2002-034658;

2002-034661; 2002-041620; 2002-041621; 2002-055779; 2002-226664;

2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;

2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-026644

Service result transfer for accessing e.g. weather information, involves storing set of results represented in extensible markup language, in network addressable storage location, without returning result to client

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186425	A2	20011115	WO 2001US15206	A	20010509	200204 B
AU 200159726	A	20011120	AU 200159726	A	20010509	200219
EP 1281119	A2	20030205	EP 2001933290	A	20010509	200310
			WO 2001US15206	A	20010509	
JP 2004501427	W	20040115	JP 2001583307	A	20010509	200410
			WO 2001US15206	A	20010509	

Priority Applications (No Type Date): US 2000660553 A 20000912; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602 ; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186425 A2 E 159 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200159726 A G06F-009/00 Based on patent WO 200186425

EP 1281119 A2 E G06F-009/00 Based on patent WO 200186425

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2004501427 W 299 G06F-012/00 Based on patent WO 200186425

Abstract (Basic): WO 200186425 A2

NOVELTY - A message that invokes set of functions corresponding to schema is sent to a service (112) from client (110). A set of results (134) represented in XML language, are generated in response to the sent message. The results are stored in a space (114) comprising network addressable storage location without returning the results to the client.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Service result transfer system;
- (b) Carrier medium storing program instructions

USE - For returning service results in distributed computing environment such as to locate information about restaurants, weather, maps, traffic, movie.

ADVANTAGE - Enhances the flexibility of distributed computing environment for variety of substations by storing the results on the storage unit.

DESCRIPTION OF DRAWING(S) - The figure shows the diagram of distributed computing model.

Client (110)  
Service (112)  
Space (114)  
XML result (134)  
pp; 159 DwgNo 9/48

Title Terms: SERVICE; RESULT; TRANSFER; ACCESS; WEATHER; INFORMATION;  
STORAGE; SET; RESULT; REPRESENT; EXTEND; LANGUAGE; NETWORK; ADDRESS;  
STORAGE; LOCATE; RETURN; RESULT; CLIENT

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-012/00

File Segment: EPI

5/5/34 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014213959 \*\*Image available\*\*

WPI Acc No: 2002-034657/200204

Related WPI Acc No: 2002-034655; 2002-034656; 2002-034658; 2002-034659;  
2002-034661; 2002-041620; 2002-041621; 2002-055779; 2002-226664;  
2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;  
2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-026642

Computing environment bridging method for client service application,  
involves accessing proxy service that provides interface to entity in  
accessed environment

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; DUIGOU M J; SAULPAUGH T E ; SLAUGHTER G L ;  
TRAVERSAT B A

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186422	A2	20011115	WO 2001US15133	A	20010509	200204 B
AU 200161387	A	20011120	AU 200161387	A	20010509	200219
EP 1384142	A2	20040128	EP 2001935279	A	20010509	200409
			WO 2001US15133	A	20010509	
JP 2004515833	W	20040527	JP 2001583304	A	20010509	200435
			WO 2001US15133	A	20010509	

Priority Applications (No Type Date): US 2000693672 A 20001019; US  
2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602  
; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186422 A2 E 183 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200161387 A Based on patent WO 200186422

EP 1384142 A2 E G06F-009/00 Based on patent WO 200186422

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI

Abstract (Basic): WO 200186422 A2

NOVELTY - A proxy service is accessed by an entity of one of the bridged computing environment through messages in a data representation language. An interface to another entity in another computing environment, is provided by the proxy service.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Distributed computing system;

(b) Recording medium storing computing environment bridging program

USE - For bridging foreign clients, services, devices and transports such as smart appliances, personal digital assistants (PDAs), cell phones, lap top computers, desktop computers, mainframes and super computers, etc., in distributed computing environment. For finding and invoking distributed application or services based on physical location of clients.

ADVANTAGE - Enables large number of heterogeneous network devices of different capabilities to work together in reliable, dynamic and secure fashion. Enables changing display according to particular presentation schema that may be dynamically changed without requiring a rebuild of the application. Authorizes access to user through messages that contain embedded information of creator and access levels allowed for the object and thereby provides efficient security for services. Provides a mobile client device with the distributed application within a specified space range automatically using global positioning system (GPS) capabilities.

DESCRIPTION OF DRAWING(S) - The figure shows an illustration of the bridging mechanism of the bridging method.

pp; 183 DwgNo 27/57

Title Terms: COMPUTATION; ENVIRONMENT; BRIDGE; METHOD; CLIENT; SERVICE;

APPLY; ACCESS; SERVICE; INTERFACE; ENTITY; ACCESS; ENVIRONMENT

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-013/00

International Patent Class (Additional): G06F-009/44 ; G06F-009/46 ;

G06F-015/16 ; G06F-015/177

File Segment: EPI

5/5/35 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014213958 \*\*Image available\*\*

WPI Acc No: 2002-034656/200204

Related WPI Acc No: 2002-034655; 2002-034657; 2002-034658; 2002-034659;

2002-034661; 2002-041620; 2002-041621; 2002-055779; 2002-226664;

2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;

2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-026641

**Service accessing and addressing method in distributed computing environment, involves using URI and schema to specify network address to access service and message to invoke service function respectively**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; SAULPAUGH T E ; SLAUGHTER G L ; TRAVERSAT B A

Number of Countries: 094 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186420	A2	20011115	WO 2001US15044	A	20010509	200204 B
AU 200164577	A	20011120	AU 200164577	A	20010509	200219
EP 1285334	A2	20030226	EP 2001939009	A	20010509	200319
			WO 2001US15044	A	20010509	
JP 2003533766	W	20031111	JP 2001583302	A	20010509	200375
			WO 2001US15044	A	20010509	
EP 1285334	B1	20040128	EP 2001939009	A	20010509	200410

			WO 2001US15044	A	20010509	
DE 60101911	E	20040304	DE 601911	A	20010509	200419
			EP 2001939009	A	20010509	
			WO 2001US15044	A	20010509	

Priority Applications (No Type Date): US 2000660563 A 20000912; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602; US 2000209430 P 20000602; US 2000209525 P 20000605

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 200186420 A2 E 151 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200164577 A Based on patent WO 200186420

EP 1285334 A2 E G06F-009/00 Based on patent WO 200186420

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003533766 W 270 G06F-013/00 Based on patent WO 200186420

EP 1285334 B1 E G06F-009/00 Based on patent WO 200186420

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DE 60101911 E G06F-009/00 Based on patent EP 1285334

Based on patent WO 200186420

Abstract (Basic): WO 200186420 A2

NOVELTY - A client (110) reads advertisement (132) from space (114) comprising a network-addressable storage location. The advertisement comprises uniform resource identifier (URI) specifying network address to access a service (112) and schema, specifying messages usable to invoke service functions. A client sends a message specified in schema to the service at the URI.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Distributed computing environment service accessing system;

(b) Recording medium storing program of service accessing

USE - For accessing and addressing services in distributed computing environment such as to locate information about restaurant, weather, maps, traffic, movie information, shopping mall etc.

ADVANTAGE - Service discovery mechanism provides flexible search criteria. Client presents to the service a set of desired capabilities on form of protected and secure advertisement.

DESCRIPTION OF DRAWING(S) - The figure shows a distributed computing model in which services are advertised in spaces.

Client (110)

Service (112)

Space (114)

Advertisement (132)

pp; 151 DwgNo 8/48

Title Terms: SERVICE; ACCESS; ADDRESS; METHOD; DISTRIBUTE; COMPUTATION;

ENVIRONMENT; SPECIFIED; NETWORK; ADDRESS; ACCESS; SERVICE; MESSAGE;

INVOKE; SERVICE; FUNCTION; RESPECTIVE

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-013/00

International Patent Class (Additional): G06F-012/00 ; G06F-015/16

File Segment: EPI

5/5/36 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014213957 \*\*Image available\*\*

WPI Acc No: 2002-034655/200204



Related WPI Acc No: 2002-034656; 2002-034657; 2002-034658; 2002-034659;  
 2002-034661; 2002-041620; 2002-041621; 2002-055779; 2002-226664;  
 2002-256546; 2002-256547; 2002-256548; 2002-256553; 2002-256554;  
 2002-256557; 2002-256558; 2003-828999

XRPX Acc No: N02-026640

**Service finding method in distributed computing environment, involves comparing search criteria with advertisement to find advertisement match with search criteria**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: ABDELAZIZ M M ; DUIGOU M J; SAULPAUGH T E ; SLAUGHTER G L ;

TRAVERSAT B A

Number of Countries: 094 Number of Patents: 012

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200186419	A2	20011115	WO 2001US14972	A	20010509	200204 B
AU 200161315	A	20011120	AU 200161315	A	20010509	200219
AU 200163036	A	20011203	AU 200163036	A	20010509	200221
EP 1290547	A2	20030312	EP 2001937315	A	20010509	200320
			WO 2001US15276	A	20010509	
JP 2003533766	W	20031111	JP 2001583302	A	20010509	200375
			WO 2001US15044	A	20010509	
JP 2003533767	W	20031111	JP 2001583309	A	20010509	200375
			WO 2001US15276	A	20010509	
JP 2003534588	W	20031118	JP 2001583322	A	20010509	200401
			WO 2001US15132	A	20010509	
JP 2003534597	W	20031118	JP 2001587207	A	20010509	200401
			WO 2001US15120	A	20010509	
EP 1384142	A2	20040128	EP 2001935279	A	20010509	200409
			WO 2001US15133	A	20010509	
EP 1380941	A2	20040114	EP 2001937315	A	20010509	200410
			EP 200321805	A	20010509	
EP 1309915	B1	20040310	EP 2001935278	A	20010509	200418
			WO 2001US15132	A	20010509	
JP 2004515833	W	20040527	JP 2001583304	A	20010509	200435
			WO 2001US15133	A	20010509	

Priority Applications (No Type Date): US 2000653608 A 20000831; US 2000202975 P 20000509; US 2000208011 P 20000526; US 2000209140 P 20000602 ; US 2000209430 P 20000602; US 2000209525 P 20000605; US 2000672200 A 20000927; US 2000663563 A 20000915; US 2000660563 A 20000912; US 2000663564 A 20000915; US 2000693672 A 20001019

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200186419 A2 E 141 G06F-009/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200161315 A Based on patent WO 200186419

AU 200163036 A Based on patent WO 200190883

EP 1290547 A2 E G06F-009/00 Based on patent WO 200186427

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003533766 W 270 G06F-013/00 Based on patent WO 200186420

JP 2003533767 W 289 G06F-009/44 Based on patent WO 200186427

JP 2003534588 W 282 G06F-009/46 Based on patent WO 200186440

JP 2003534597 W 287 G06F-009/44 Based on patent WO 200190883

EP 1384142 A2 E G06F-009/00 Based on patent WO 200186422

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

EP 1380941 A2 E G06F-009/44 Div ex application EP 2001937315

Div ex patent EP 1290547

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

EP 1309915 B1 E G06F-009/50 Based on patent WO 200186440

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
LU MC NL PT SE TR  
JP 2004515833 W 358 G06F-013/00 Based on patent WO 200186422

Abstract (Basic): WO 200186419 A2

NOVELTY - A search message in a data representational language including a search criteria is sent. The search criteria is compared with the service advertisement, to find advertisements that match the search criteria. The advertisements in the data representational language provides access information for corresponding services. The client receives response advertisements that match search criteria.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Distributed computing system;

(b) Service finding system

USE - For searching services in distributed computing environment to locate information about restaurants, weather, map, traffic, movie, library, shopping mall, etc.

ADVANTAGE - Allows client devices to connect to distributed computing environment and services and/or data in local environment. Publishing a protected advertisement, forces the client to obtain a valid credential from an authentication service before receiving the complete un-protected advertisement from the service provider.

DESCRIPTION OF DRAWING(S) - The figure shows the flow chart for location of service advertisement.

pp; 141 DwgNo 42/45

Title Terms: SERVICE; FINDER; METHOD; DISTRIBUTE; COMPUTATION; ENVIRONMENT;  
COMPARE; SEARCH; CRITERIA; ADVERTISE; FINDER; ADVERTISE; MATCH; SEARCH;  
CRITERIA

Derwent Class: T01; W01

International Patent Class (Main): G06F-009/00 ; G06F-009/44 ;  
G06F-009/46 ; G06F-009/50 ; G06F-013/00

International Patent Class (Additional): G06F-009/45 ; G06F-012/00 ;  
G06F-015/16 ; G06F-015/177

File Segment: EPI

Set	Items	Description
S1	698	AU=(ABDELAZIZ, M? OR ABDELAZIZ M? OR TRAVERSAT, B? OR TRAV- ERSAT B? OR SLAUGHTER, G? OR SLAUGHTER G? OR SAULPAUGH, T? OR SAULPAUGH T?)
S2	0	S1 AND HEAP
S3	0	S1 AND (DATABASE OR DATA()BASE)()STORE?
File	2:INSPEC	1969-2004/Jun W2 (c) 2004 Institution of Electrical Engineers
File	6:NTIS	1964-2004/Jun W3 (c) 2004 NTIS, Intl Cpyrght All Rights Res
File	8:Ei Compendex(R)	1970-2004/Jun W2 (c) 2004 Elsevier Eng. Info. Inc.
File	34:SciSearch(R)	Cited Ref Sci 1990-2004/Jun W3 (c) 2004 Inst for Sci Info
File	35:Dissertation Abs Online	1861-2004/May (c) 2004 ProQuest Info&Learning
File	65:Inside Conferences	1993-2004/Jun W3 (c) 2004 BLDSC all rts. reserv.
File	92:IHS Intl.Stds.& Specs.	1999/Nov (c) 1999 Information Handling Services
File	94:JICST-EPlus	1985-2004/May W5 (c)2004 Japan Science and Tech Corp(JST)
File	95:TEME-Technology & Management	1989-2004/Jun W1 (c) 2004 FIZ TECHNIK
File	99:Wilson Appl. Sci & Tech Abs	1983-2004/May (c) 2004 The HW Wilson Co.
File	103:Energy SciTec	1974-2004/Jun B1 (c) 2004 Contains copyrighted material
File	144:Pascal	1973-2004/Jun W2 (c) 2004 INIST/CNRS
File	202:Info. Sci. & Tech. Abs.	1966-2004/May 14 (c) 2004 EBSCO Publishing
File	233:Internet & Personal Comp. Abs.	1981-2003/Sep (c) 2003 EBSCO Pub.
File	239:Mathsci	1940-2004/Aug (c) 2004 American Mathematical Society
File	275:Gale Group Computer DB(TM)	1983-2004/Jun 24 (c) 2004 The Gale Group
File	434:SciSearch(R)	Cited Ref Sci 1974-1989/Dec (c) 1998 Inst for Sci Info
File	647:CMP Computer Fulltext	1988-2004/Jun W2 (c) 2004 CMP Media, LLC
File	674:Computer News Fulltext	1989-2004/Jun W2 (c) 2004 IDG Communications
File	696:DIALOG Telecom. Newsletters	1995-2004/Jun 24 (c) 2004 The Dialog Corp.

Set	Items	Description
S1	1391	VIRTUAL()MACHINE? OR JAVA (3N) (INTERPRETER? OR EVALUATOR? - OR SHELL? OR TRANSLATOR? OR CONVERT? OR ENVIRONMENT OR (RUN()- TIME OR RUNTIME) ( )ENGINE?) OR COMMON()INTERMEDIATE()LANGUAGE? OR MSIL OR VMWARE OR PYTHON
S2	1815520	HEAP OR TEMPORARY()STORAGE OR GARBAGE()COLLECTION OR STORA- GE OR BUFFER? OR CACHE? OR MEMORY OR REPOSITORY? OR UMA
S3	3464240	TRANSACTION? OR ACTIVIT? OR EXECUTION? OR MESSAGE? OR DATA OR INFORMATION OR PACKET? OR (E OR ELECTRONIC) ( )MAIL OR EMAIL OR TEXT
S4	259	ATOMIC (2N) S3
S5	2	VIRTUAL()HEAP
S6	1	STORE()HEAP
S7	24	MEMORY()HEAP
S8	522	S1 AND S2 AND S3
S9	2	S1 AND S4
S10	2	S1 AND S5
S11	1	S1 AND S6
S12	5	S1 AND S7
S13	126	S1 (3N) S2
S14	100	S13 AND S3
S15	17	S13 (3N) S3
S16	24	S9 OR S10 OR S11 OR S12 OR S15
S17	24	S16 AND IC=G06F?

File 347:JAPIO Nov 1976-2004/Feb(Updated 040607)

(c) 2004 JPO & JAPIO

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200439

(c) 2004 Thomson Derwent

VERIFICATION; COMPLETE; COMPUTATION; SYSTEM; PRIOR; EXECUTE; BYTE; CODE;  
VIRTUAL; MACHINE  
Derwent Class: T01; T04  
International Patent Class (Main): G06F-009/00  
File Segment: EPI

17/5/13 (Item 10 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014309920 \*\*Image available\*\*  
WPI Acc No: 2002-130623/200217  
XRPX Acc No: N02-098526

**Migrating processes on network from one virtual machine to another by  
check-pointing application to persistent heap for sending to node where  
process is intended to migrate**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )  
Inventor: RODRIQUEZ R; SAULPAUGH T E; SLAUGHTER G L  
Number of Countries: 094 Number of Patents: 003  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200195094	A2	20011213	WO 2001US16818	A	20010521	200217 B
AU 200164914	A	20011217	AU 200164914	A	20010521	200225
EP 1299800	A2	20030409	EP 2001939390	A	20010521	200325
			WO 2001US16818	A	20010521	

Priority Applications (No Type Date): US 2000587113 A 20000602

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200195094	A2	E	72	G06F-009/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200164914	A		G06F-009/00	Based on patent WO 200195094
EP 1299800	A2	E	G06F-009/00	Based on patent WO 200195094

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200195094 A2

NOVELTY - The in- **memory heap** (108a) for an application (104a) executing on a client system (100) is check-pointed to a persistent store (120), including user pages, system pages and current state of non-heap structures, which are packaged and sent to the client system (130), where the application is migrated.

DETAILED DESCRIPTION - Migration is performed using a transaction mechanism for atomically copying the entire persistent state and the new in- **memory heap** (108b) may be allocated for an application (104b) including the check-pointed user and system pages.

INDEPENDENT CLAIMS are included for

(1) a system for migrating a process between devices.

(2) a computer program.

USE - Migrating running Java and other applications from one machine to another on a network.

ADVANTAGE - Using compacting to reduce or eliminate fragmentation.

DESCRIPTION OF DRAWING(S) - The drawing shows the application migration process

In-memory heaps (108a,108b)

Applications (104a,104b)

Clients (100,130)

Persistent store (120)

pp; 72 DwgNo 5a/11

Title Terms: MIGRATION; PROCESS; NETWORK; ONE; VIRTUAL; MACHINE; CHECK;  
POINT; APPLY; PERSISTENT; HEAP; SEND; NODE; PROCESS; INTENDED; MIGRATION

Derwent Class: T01  
International Patent Class (Main): G06F-009/00  
File Segment: EPI

17/5/14 (Item 11 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014301464 \*\*Image available\*\*  
WPI Acc No: 2002-122168/200216  
XRPX Acc No: N02-091643

Virtual heap for virtual machine executing a process which is  
maintained on nonvolatile storage external to device running virtual  
machine and connected to Internet server

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )  
Inventor: DUGOU M J; SAULPAUGH T E; SLAUGHTER G L; TRAVERSAT B A  
Number of Countries: 094 Number of Patents: 003  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200195106	A2	20011213	WO 2001US16819	A	20010521	200216 B
AU 200164915	A	20011217	AU 200164915	A	20010521	200225
EP 1297423	A2	20030402	EP 2001939391	A	20010521	200325
			WO 2001US16819	A	20010521	

Priority Applications (No Type Date): US 2000587180 A 20000602

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200195106 A2 E 67 G06F-009/50

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200164915 A G06F-009/50 Based on patent WO 200195106

EP 1297423 A2 E G06F-009/50 Based on patent WO 200195106

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200195106 A2

NOVELTY - A device (140) includes a client (101) and a memory (117)  
external to the device storing persistent storage space (120) with a  
**virtual heap** (110), while the persistent space stores the virtual  
head for an application (104) or virtual heaps for other applications.  
Caching, check-pointing and other reads or writes to the virtual head  
may be performed over a network connection rather than over an Internet  
interface.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for a method  
and system for managing a virtual memory in a **virtual machine** and  
for a carrier medium with programming instructions.

USE - Providing **virtual heap** for processing executions within  
**virtual machines**.

DESCRIPTION OF DRAWING(S) - The drawing is a block diagram of the  
device

Device (140)  
Client (101)  
Memory (117)  
Storage space (120)  
Virtual head (110)  
Application (104)  
pp; 67 DwgNo 1b/1

Title Terms: VIRTUAL; HEAP; VIRTUAL; MACHINE; EXECUTE; PROCESS; MAINTAIN;  
STORAGE; EXTERNAL; DEVICE; RUN; VIRTUAL; MACHINE; CONNECT; SERVE

Derwent Class: T01  
International Patent Class (Main): G06F-009/50  
File Segment: EPI

17/5/15 (Item 12 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014301460 \*\*Image available\*\*  
WPI Acc No: 2002-122164/200216  
XRPX Acc No: N02-091639

**Checkpointing process method for virtual machine , involves copying  
section of store heap comprising referenced object into in- memory  
heap and accessing and flushing**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )  
Inventor: DUIGOU M J; SAULPAUGH T E; SLAUGHTER G L; TRAVERSAT B A  
Number of Countries: 094 Number of Patents: 003  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200195093	A2	20011213	WO 2001US16795	A	20010522	200216 B
AU 200164903	A	20011217	AU 200164903	A	20010522	200225
EP 1330704	A2	20030730	EP 2001939377	A	20010522	200350
			WO 2001US16795	A	20010522	

Priority Applications (No Type Date): US 2000587078 A 20000602

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 200195093	A2	E	79	G06F-009/00	
--------------	----	---	----	-------------	--

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200164903	A			G06F-009/00	Based on patent WO 200195093
--------------	---	--	--	-------------	------------------------------

EP 1330704	A2	E		G06F-009/00	Based on patent WO 200195093
------------	----	---	--	-------------	------------------------------

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200195093 A2

NOVELTY - The method involves referencing whether the object is in  
a **in- memory heap** (108) and a **store heap** of a **virtual heap**  
during process execution. If the referenced object is in **store heap**  
, a section of **store heap** is copied into the **in- memory heap** and  
accessed. Then, one or more sections of the **in- memory heap** is  
flushed by a virtual memory manager to the **store heap**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
following:

- (a) **Virtual machine** processes management method;
- (b) Checkpoint processing system;
- (c), Recorded medium storing checkpoint processing program

USE - For processing checkpoint for **virtual machine** such as  
Java **virtual machine** installed in devices such as personal digital  
assistant, cellular telephone and consumer appliances such as computer.

ADVANTAGE - The saved state of **virtual machine heap** provides  
the ability to restart the **virtual machine** after system crash or  
shut down to previously saved persistent. Reduces heap waste by  
improving object locality in cache line. Permits the migration of  
computation to different system.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of  
client device with virtual persistent heap and persistent store space  
located external to client device.

In- **memory heap** (108)

pp; 79 DwgNo 1c/11

Title Terms: PROCESS; METHOD; VIRTUAL; MACHINE; COPY; SECTION; STORAGE;  
HEAP; COMPRISE; REFERENCE; OBJECT; MEMORY; HEAP; ACCESS; FLUSH

Derwent Class: T01

International Patent Class (Main): G06F-009/00

File Segment: EPI

17/5/16 (Item 13 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

013851112  
WPI Acc No: 2001-335325/200135  
XRPX Acc No: N01-242068

Computer system for MHEG level 6 application, has memory heaps that  
respectively store data objects created by MHEG engine and data objects  
created by execution of non-MHEG instructions

Patent Assignee: KONINK PHILIPS ELECTRONICS NV (PHIG )

Inventor: HOULDSWORTH R J; MORRIS S

Number of Countries: 027 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200101238	A2	20010104	WO 2000EP5775	A	20000622	200135 B
EP 1119804	A2	20010801	EP 2000943861	A	20000622	200144
			WO 2000EP5775	A	20000622	
KR 2001072975	A	20010731	KR 2001702422	A	20010226	200209
JP 2003503789	W	20030128	WO 2000EP5775	A	20000622	200309
			JP 2001507184	A	20000622	

Priority Applications (No Type Date): GB 9914925 A 19990626

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
-----------	------	--------	----------	--------------

WO 200101238	A2	E	7 G06F-009/00	
--------------	----	---	---------------	--

Designated States (National): JP KR

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU  
MC NL PT SE

EP 1119804	A2	E	G06F-009/00	Based on patent WO 200101238
------------	----	---	-------------	------------------------------

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI

KR 2001072975	A		G06F-009/44	
---------------	---	--	-------------	--

JP 2003503789	W	13	G06F-009/46	Based on patent WO 200101238
---------------	---	----	-------------	------------------------------

Abstract (Basic): WO 200101238 A2

NOVELTY - A Java **Virtual Machine** includes a **memory heap** for storing the **data** objects created by a multimedia and hypermedia experts group (MHEG) engine. Another Java **Virtual Machine** has a **memory heap** which stores the **data** objects created by the execution of non-MHEG instructions.

DETAILED DESCRIPTION - The MHEG engine receives instructions from the MHEG level 6 application for executing the MHEG instructions. The other Java **Virtual Machine** executes the non-MHEG instructions of the MHEG level 6 application. INDEPENDENT CLAIMS are also included for the following:

(a) a program storage device;

(b) and a computer program.

USE - For multimedia and hypermedia experts group level 6 application.

ADVANTAGE - Permits separate garbage collection of each processes heap since the memory heaps are separated for respective processes. Enables designing each separate garbage collection routine to the particular characteristics of the process. Enables isolating the MHEG engine from side effects of other application processes which may be badly written or written with molasses intent.

pp; 7 DwgNo 0/2

Title Terms: COMPUTER; SYSTEM; LEVEL; APPLY; MEMORY; HEAP; RESPECTIVE;

STORAGE; DATA; OBJECT; ENGINE; DATA; OBJECT; EXECUTE; NON; INSTRUCTION

Derwent Class: T01

International Patent Class (Main): G06F-009/00 ; G06F-009/44 ;

G06F-009/46

International Patent Class (Additional): G06F-012/00

File Segment: EPI



Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200023897	A1	20000427	WO 99US23083	A	19991005	200038 B
AU 200014421	A	20000508	AU 200014421	A	19991005	200038
EP 1131721	A1	20010912	EP 99970753	A	19991005	200155
			WO 99US23083	A	19991005	
US 20020108025	A1	20020808	US 98176530	A	19981021	200254
EP 1131721	B1	20040414	EP 99970753	A	19991005	200426
			WO 99US23083	A	19991005	
DE 6920916489	E	20040519	DE 99616489	A	19991005	200434
			EP 99970753	A	19991005	
			WO 99US23083	A	19991005	

Priority Applications (No Type Date): US 98176530 A 19981021

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200023897	A1	E	29	G06F-012/02	
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
AU 200014421	A				Based on patent WO 200023897
EP 1131721	A1	E		G06F-012/02	Based on patent WO 200023897
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 20020108025	A1			G06F-012/08	
EP 1131721	B1	E		G06F-012/02	Based on patent WO 200023897
Designated States (Regional): DE FR GB					
DE 6920916489	E			G06F-012/02	Based on patent EP 1131721
Based on patent WO 200023897					

Abstract (Basic): WO 200023897 A1

NOVELTY - The virtual address space is partitioned into upper and lower portions and physical memory is mapped to the lower portion. In response to initiating execution, the code data structure is copied to physical memory and contiguous region of physical memory is allocated to data structures. The contiguous region of physical memory are then mapped to the upper portion of virtual address space.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) memory manager;
- (b) computer system;
- (c) computer data signal embodied in carrier wave coupled to computer

USE - For managing memory in computer environment based on JAVA programming language.

ADVANTAGE - The directed virtual memory is used to allocate all the tasks in a group, thus improving memory performance. The virtual memory is highly portable and can even be operated on platforms which do not provide virtual memory management.

DESCRIPTION OF DRAWING(S) - The figure shows the memory mapping.

pp; 29 DwgNo 3/7

Title Terms: MEMORY; MANAGEMENT; METHOD; ENVIRONMENT; COMPUTER; COPY; DATA; CODE; PHYSICAL; MEMORY; MAP; LOWER; PORTION; MEMORY; ALLOCATE; CONTIGUOUS ; REGION; MEMORY; UPPER; PORTION; VIRTUAL; ADDRESS; SPACE

Derwent Class: T01

International Patent Class (Main): G06F-012/02 ; G06F-012/08

File Segment: EPI

17/5/19 (Item 16 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

013240584 \*\*Image available\*\*

WPI Acc No: 2000-412458/200035

XRPX Acc No: N00-308277

**Heap profiling method for mark and sweep garbage collected dynamic memory systems, involves using at least one event dynamically to manage storage allocation and storage de-allocation in heap**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: GRARUP S; LIANG S

Number of Countries: 088 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200033192	A1	20000608	WO 99US28089	A	19991124	200035 B
AU 200021589	A	20000619	AU 200021589	A	19991124	200044
EP 1135727	A1	20010926	EP 99965916	A	19991124	200157
			WO 99US28089	A	19991124	

Priority Applications (No Type Date): US 98109945 P 19981125

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200033192 A1 E 69 G06F-011/34

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN  
CR CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ  
LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK  
SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200021589 A G06F-011/34 Based on patent WO 200033192

EP 1135727 A1 E G06F-011/34 Based on patent WO 200033192

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200033192 A1

NOVELTY - One or more heap arenas are created in a heap. At least one event is dynamically used to manage the storage allocation and storage de-allocation in the heap. A unique arena ID is assigned to each heap arena.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) computer readable medium;

(b) heap profiling system

USE - For profiling heap used for mark and sweep garbage collected dynamic memory systems.

ADVANTAGE - A wide variety of profilers can be accommodated by using a set of virtual machine profiler interface events for dynamically managing the storage allocation and de-allocation in the heap. The profiler may request specific **information** from the **virtual machine** with respect to **storage** allocation and/or de-allocation in the heap.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of profiling architecture of heap.

pp; 69 DwgNo 2/3

Title Terms: HEAP; PROFILE; METHOD; MARK; SWEEP; GARBAGE; COLLECT; DYNAMIC; MEMORY; SYSTEM; ONE; EVENT; DYNAMIC; MANAGE; STORAGE; ALLOCATE; STORAGE; DE; ALLOCATE; HEAP

Derwent Class: T01

International Patent Class (Main): G06F-011/34

International Patent Class (Additional): G06F-012/02

File Segment: EPI

17/5/20 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

013176435

WPI Acc No: 2000-348308/200030

XRPX Acc No: N00-260875

**Code generation technique and run time environment for implementing precise exceptions while preserving scheduling freedom**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
RD 431185	A	20000310	RD 2000431185	A	20000220	200030 B

Priority Applications (No Type Date): RD 2000431185 A 20000220

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
RD 431185	A		3 G06F-000/00	

Abstract (Basic): RD 431185 A

NOVELTY - The technique is used in the binary translation of CISC architectures and in scheduling of unsafe operations.

DETAILED DESCRIPTION - When using system level binary translation in CISC architectures, correct exception and trap points must be recognized at the CISC instruction boundary even when a CISC instruction has been cracked into multiple execution primitives. When using an incremental commit strategy, **atomic instruction execution** can be achieved by establishing whether an instruction will succeed before actually modifying any architected processor state. In the subject technique this is achieved by a roll forward strategy in the exception handler. In this way when control transfers to the native VLIW exceptio handler the native VLIW handler detects that a PER exception was raised at a non atomic instruction location, and starts to interpret primitive instructions from the binary translated code until the boundary of the instruction which experienced the PER exception is recognized. At this point, control is reported for the emulated architecture at the point after the offending instruction as specified by the architecture. The technique is also used to achieve exact interruption points in the presence of unsafe scheduling or speculation in an architecture without hardware support for deferring exceptions due to such speculation.

USE - The technique is used in real architectures and **virtual machines** such as the Java **virtual machine**.

ADVANTAGE - The technique enables correct implementation of architectures during binary translation when speculation and instruction scheduling are to be used to achieve high performance.

pp; 3 DwgNo 0/0

Title Terms: CODE; GENERATE; TECHNIQUE; RUN; TIME; ENVIRONMENT; IMPLEMENT; PRECISION; PRESERVE; SCHEDULE; FREE

Derwent Class: T01

International Patent Class (Main): G06F-000/00

File Segment: EPI

17/5/21 (Item 18 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

011915814

WPI Acc No: 1998-332724/199829

Related WPI Acc No: 2001-181284

XRPX Acc No: N98-259742

**Computer implementation method for preventing transfer of control to illegal memory address during virtual machine instruction sequence execution - involves encapsulating machine executable instruction that causes transfer of control to illegal memory address with predetermined sequence of machine executable checking instruction**

Patent Assignee: MICROSOFT CORP (MICR-N)

Inventor: LUCCO S E; WAHBE R S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5761477	A	19980602	US 95566613	A	19951204	199829 B

Priority Applications (No Type Date): US 95566613 A 19951204

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 5761477 A 17 G06F-011/00

Abstract (Basic): US 5761477 A

The method involves generating a sequence of machine executable instruction to carry out operations defined by a sequence of virtual machine instructions. A status information indicating illegal memory address is stored in a memory. The sequence of virtual machine instruction is not allowed to transfer control to illegal memory address. Similarly the sequence of virtual machine instruction is allowed to transfer control to legal memory address. The sequence of virtual machine instructions is analysed to generate a sequence of machine executable instructions in order to carry out operations defined by the sequence of virtual machine instructions.

The machine executable instruction that causes transfer of control to illegal memory address is encapsulated with a predetermined sequence of machine executable checking instructions. The predetermined sequence of machine executable checking instructions is executed in conjunction with machine executable instruction that causes transfer of control to illegal memory address. If machine executable instruction that causes transfer of control to illegal memory address performs attempt to transfer control to one of illegal memory addresses, the predetermined sequence of machine executable checking instructions performs signalling an error.

ADVANTAGE - Implements safe virtual machine. Develops implementation of software efficiently. Controls program execution precisely. Incorporates program safely into mission critical environment like database system and operating system without corrupting other codes accidentally or maliciously. Supports general purpose memory protection model effectively.

Dwg.0/4

Title Terms: COMPUTER; IMPLEMENT; METHOD; PREVENT; TRANSFER; CONTROL; ILLEGAL; MEMORY; ADDRESS; VIRTUAL; MACHINE; INSTRUCTION; SEQUENCE; EXECUTE; ENCAPSULATE; MACHINE; EXECUTE; INSTRUCTION; CAUSE; TRANSFER; CONTROL; ILLEGAL; MEMORY; ADDRESS; PREDETERMINED; SEQUENCE; MACHINE; EXECUTE; CHECK; INSTRUCTION

Derwent Class: T01

International Patent Class (Main): G06F-011/00

File Segment: EPI

17/5/22 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

008045494 \*\*Image available\*\*

WPI Acc No: 1989-310606/198943

XRPX Acc No: N89-236676

**Address converter for virtual machine system - has memory with real address identification and spatial identification fields**

Patent Assignee: HITACHI LTD (HITA )

Inventor: UMENO H; YAMAGATA R; SAWAMOTO H

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3911182	A	19891019	DE 3911182	A	19890406	198943 B
DE 3911182	C	19900830				199035
US 5129071	A	19920707	US 89331756	A	19890403	199230

Priority Applications (No Type Date): JP 8882921 A 19880406

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

DE 3911182 A 11

US 5129071 A 11 G06F-012/10

Abstract (Basic): DE 3911182 A

The converter has an address conversion memory (1) with a real

address field (4), an identification field (5) for a virtual machine and a spatial identification field (6). The identification field (5) stores an identification indicating a virtual machine within a virtual machine group, the spatial identification field (6) holding information designating a virtual machine or the address space of a virtual machine.

An initial virtual machine with individual address spaces is loaded in the conversion memory (1), with the virtual machine information held in the identification field (5) and the address space information in the spatial identification field (6). A second virtual machine is then loaded, with a group identification held by the identification field (5) and the information designating the second virtual machine held in the spatial identification field (6).

USE - For host-guest programmes.

2/5

Title Terms: ADDRESS; CONVERTER; VIRTUAL; MACHINE; SYSTEM; MEMORY; REAL;

ADDRESS; IDENTIFY; SPACE; IDENTIFY; FIELD

Derwent Class: T01

International Patent Class (Main): G06F-012/10

International Patent Class (Additional): G06F-009/46

File Segment: EPI

17/5/23 (Item 20 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

007225633

WPI Acc No: 1987-222641/198732

XRPX Acc No: N87-166473

**Editing system for virtual machines - allows machine to print display, modify control and process information stored in different machine storage area**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC ); IBM CORP (IBMC )

Inventor: ESHEL M M

Number of Countries: 004 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 231472	A	19870812	EP 86116727	A	19861202	198732 B
US 4831541	A	19890516	US 88205019	A	19880607	198923
EP 231472	B1	19930331	EP 86116727	A	19861202	199313
DE 3688191	G	19930506	DE 3688191	A	19861202	199319
			EP 86116727	A	19861202	

Priority Applications (No Type Date): US 85814357 A 19851230

Cited Patents: 2.Jnl.Ref; A3...8848; No-SR.Pub

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
-----------	------	--------	----------	--------------

EP 231472	A	E 14		
-----------	---	------	--	--

Designated States (Regional): DE FR GB

US 4831541	A	10		
------------	---	----	--	--

EP 231472	B1	E 13	G06F-009/46	
-----------	----	------	-------------	--

Designated States (Regional): DE FR GB

DE 3688191	G		G06F-009/46	Based on patent EP 231472
------------	---	--	-------------	---------------------------

Abstract (Basic): EP 231472 A

The virtual machine environment editing system is used with two virtual machines having corresponding virtual storage areas operatively related. A control resides in one of the virtual machines for allowing one of the machines to edit information stored in the virtual storage area of the other of the machines. The control also allows the stored information in the other machine to be printed, displayed and modified. The information processing is performed in full screen mode. The control traps information indicative of data displayable on a terminal. The control translates information into hexadecimal format for output to a peripheral device of the virtual machine.

The control performs file editor operations, which comprise a

facility.

0/7

Title Terms: EDIT; SYSTEM; VIRTUAL; MACHINE; ALLOW; MACHINE; PRINT; DISPLAY  
; MODIFIED; CONTROL; PROCESS; INFORMATION; STORAGE; MACHINE; STORAGE;  
AREA

Derwent Class: T01

International Patent Class (Main): G06F-009/46

International Patent Class (Additional): G06F-009/44 ; G06F-012/08

File Segment: EPI

17/5/24 (Item 21 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

007210622

WPI Acc No: 1987-207631/198730

XRFX Acc No: N87-155399

**Coprocessor management in virtual memory virtual machine - having  
coprocessor mounted on integrated circuit card which is inserted into  
mother board socket**

Patent Assignee: IBM CORP (IBMC )

Inventor: BARNES J G; BLACKARD J W; KRISHNAMUR R; MOTHERSOLE T L

Number of Countries: 006 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 230353	A	19870729	EP 87300123	A	19870108	198730 B
BR 8700173	A	19871201				198802
US 4787026	A	19881122	US 86820456	A	19860117	198849

Priority Applications (No Type Date): US 86820456 A 19860117

Cited Patents: 2.Jnl.Ref; A3...9046; No-SR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

EP 230353	A	E	16		
-----------	---	---	----	--	--

Designated States (Regional): DE FR GB IT

US 4787026	A	14			
------------	---	----	--	--	--

Abstract (Basic): EP 230353 A

The method for managing the operation of a coprocessor in a virtual  
**memory virtual machine data** processing system which includes a  
Virtual Resource Manager (VRM) consisting of a number of interrelated  
programming components which are executed on the main processor to  
establish virtual machines for executing various application programs  
concurrently. The VR assigns system resources including one of a number  
of operating systems, to each of the virtual machines, including  
establishing in the VRM, a coprocessor programming subsystem component  
comprising a number of programming subcomponents which function to  
define a virtual machine interface to the coprocessor.

The subsystem component is executed to permit the coprocessor to  
process an application program under the control of an operating system  
that is run by the main processor.

USE - Displays, printers

Title Terms: MANAGEMENT; VIRTUAL; MEMORY; VIRTUAL; MACHINE; MOUNT;

INTEGRATE; CIRCUIT; CARD; INSERT; MOTHER; BOARD; SOCKET

Index Terms/Additional Words: DATA; PROCESSOR

Derwent Class: T01

International Patent Class (Additional): G06F-009/38 ; G06F-012/08 ;

G06F-013/20

File Segment: EPI

Set	Items	Description
S1	1035	VIRTUAL()MACHINE? OR JAVA (3N) (INTERPRETER? OR EVALUATOR? - OR SHELL? OR TRANSLATOR? OR CONVERT? OR ENVIRONMENT OR (RUN()- TIME OR RUNTIME) ( )ENGINE?) OR COMMON()INTERMEDIATE()LANGUAGE? OR MSIL OR VMWARE OR PYTHON
S2	9986	HEAP OR TEMPORARY()STORAGE OR GARBAGE()COLLECTION OR STORA- GE OR BUFFER? OR CACHE? OR MEMORY OR REPOSITORY? OR UMA
S3	64299	TRANSACTION? OR ACTIVIT? OR EXECUTION? OR MESSAGE? OR DATA OR INFORMATION OR PACKET? OR (E OR ELECTRONIC) ( )MAIL OR EMAIL OR TEXT
S4	11	ATOMIC (2N) S3
S5	0	VIRTUAL()HEAP
S6	0	STORE()HEAP
S7	1	MEMORY()HEAP
S8	78	S1 AND S2 AND S3
S9	0	S1 AND S4
S10	0	S1 AND S5
S11	0	S1 AND S6
S12	0	S1 AND S7
S13	78	S8 AND S3
S14	0	S13 AND S4
S15	9	S1 (3N) S2
S16	3	S15 AND S3
S17	3	S16 NOT PY>2000
S18	3	S17 NOT PY>20000602

File 256:SoftBase:Reviews,Companies&Prods. 82-2004/May  
(c)2004 Info.Sources Inc

Set	Items	Description
S1	14603	VIRTUAL()MACHINE? OR JAVA (3N) (INTERPRETER? OR EVALUATOR? - OR SHELL? OR TRANSLATOR? OR CONVERT? OR ENVIRONMENT OR (RUN()- TIME OR RUNTIME) ()ENGINE?) OR COMMON()INTERMEDIATE()LANGUAGE? OR MSIL OR VMWARE OR PYTHON
S2	948850	HEAP OR TEMPORARY()STORAGE OR GARBAGE()COLLECTION OR STORA- GE OR BUFFER? OR CACHE? OR MEMORY OR REPOSITORY? OR UMA
S3	6654152	TRANSACTION? OR ACTIVIT? OR EXECUTION? OR MESSAGE? OR DATA OR INFORMATION OR PACKET? OR (E OR ELECTRONIC) ()MAIL OR EMAIL OR TEXT
S4	5997	ATOMIC (2N) S3
S5	3	VIRTUAL()HEAP
S6	0	STORE()HEAP
S7	4	MEMORY()HEAP
S8	1765	S1 AND S2 AND S3
S9	68	S1 AND S2 AND TRANSACTION?
S10	2	S1 AND S2 AND S4
S11	0	S1 AND S2 AND S5
S12	0	S1 AND S2 AND S7
S13	0	S9 AND S4
S14	10	S1 AND S4
S15	0	S1 AND S5
S16	0	S1 AND S7
S17	2	S8 AND S4
S18	0	S8 AND S5
S19	0	S8 AND S7
S20	85	S5 OR S7 OR S9 OR S10 OR S14 OR S17
S21	67	S20 NOT PY>2000
S22	67	S21 NOT PD>20000602
S23	56	RD (unique items)
File	8: Ei	Compendex(R) 1970-2004/Jun W2 (c) 2004 Elsevier Eng. Info. Inc.
File	35: Dissertation	Abs Online 1861-2004/May (c) 2004 ProQuest Info&Learning
File	202: Info. Sci. & Tech.	Abs. 1966-2004/May 14 (c) 2004 EBSCO Publishing
File	65: Inside	Conferences 1993-2004/Jun W3 (c) 2004 BLDSC all rts. reserv.
File	2: INSPEC	1969-2004/Jun W2 (c) 2004 Institution of Electrical Engineers
File	233: Internet & Personal	Comp. Abs. 1981-2003/Sep (c) 2003 EBSCO Pub.
File	94: JICST-EPlus	1985-2004/May W5 (c) 2004 Japan Science and Tech Corp(JST)
File	99: Wilson Appl. Sci & Tech	Abs 1983-2004/May (c) 2004 The HW Wilson Co.
File	95: TEME-Technology & Management	1989-2004/Jun W1 (c) 2004 FIZ TECHNIK
File	583: Gale Group Globalbase(TM)	1986-2002/Dec 13 (c) 2002 The Gale Group



23/5/1 (Item 1 from file: 8)  
DIALOG(R)File 8:Ei Compendex(R)  
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

05564669 E.I. No: EIP00055185671

**Title: Implementation of automated fine-granularity locking in a persistent programming language**

Author: Daynes, L.

Corporate Source: Sun Microsystems Lab, Palo Alto, CA, USA

Source: Software - Practice and Experience v 30 n 4 2000. p 325-361

Publication Year: 2000

CODEN: SPEXBL ISSN: 0038-0644

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications)

Journal Announcement: 0007W2

Abstract: To gain broader acceptance, Persistent Programming Languages (PPL) need a better integration of the **transaction** paradigm. Much like database systems, computations should all run in the context of a **transaction**; the **transactional** properties should be applied to all objects irrespective of their type and lifetime, and they must be enforced automatically via safe and efficient mechanisms. This requires lock managers that can cope with the requirement for automated locking in a PPL. This paper reports our design and implementation of such lock managers and the accompanying machinery that a PPL must incorporate to automate locking. Our innovative ingredients for an efficient lock management recipe are a close collaboration with the **memory** manager of the PPL and the sharing of lock data structures of equal value between locked objects. Sharing such lock values has numerous benefits: it makes the space consumption of locking negligible and independent of the number of locks, which frees **transactions** of any restriction on the volume of locks that they can use; it eliminates the need for expensive book-keeping of locks by **transactions**; and it enables the use of both non-blocking synchronization and memoization techniques for whole locking operations. These features combine to achieve fast lock acquisition for the non-blocking cases (6 RISC instructions), and make releasing locks practically free. The impact of lock management techniques and automated locking strategy on the performance of a PPL are analysed based on measurements of various lock managers integrated into PJama, a Java **Virtual Machine** (JVM) which provides orthogonal persistence. (Author abstract) 39 Refs.

Descriptors: \*Computer programming languages; Database systems; Data structures; Synchronization; Virtual reality

Identifiers: Automated locking; Persistent programming language

Classification Codes:

723.1.1 (Computer Programming Languages)

723.1 (Computer Programming); 723.3 (Database Systems); 723.2 (Data Processing); 731.1 (Control Systems)

723 (Computer Software); 731 (Automatic Control Principles)

72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

23/5/2 (Item 2 from file: 8)  
DIALOG(R)File 8:Ei Compendex(R)  
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

05060801 E.I. No: EIP98074290782

**Title: PVM implementation of the MCHF atomic structure package**

Author: Stathopoulos, A.; Ynnerman, A.B.; Fischer, Ch.F.

Corporate Source: Vanderbilt Univ, Nashville, TN, USA

Source: International Journal of Supercomputer Applications and High Performance Computing v 10 n 1 Spring 1996. p 41-61

Publication Year: 1996

CODEN: IJSAE9 ISSN: 1078-3482

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9809W2

Abstract: The Multiconfiguration Hartree-Fock (MCHF) package is a suite of programs that provide the **atomic data** required by many science and

engineering disciplines. Previous implementations of the MCHF on parallel computers provided means for meeting the ever-increasing computational demands posed by these calculations. However, the resulting codes had strict limitations on speed, problem size, and communication. In this paper, a Parallel **Virtual Machine** (PVM) implementation of the MCHF is considered on a cluster of high-end workstations. Some of the limitations are overcome through the high utilization of resources (including CPU, prime **memory**, and disk space). The development of efficient routines for global operations and of a user-friendly interface exploits the special characteristics of PVM programming. Moreover, a restructuring of the methods provides new codes that do not bear the above limitations and that exhibit significantly better speedups. Besides the algorithmic improvements, this paper presents a flexible code that can be used equally well on workstations and on the IBM SP2 multiprocessor to solve problems of one order of magnitude larger than any previous attempts, and thus facilitates new research in various scientific fields. (Author abstract) 26 Refs.

Descriptors: \*Atomic physics; Computer software; Parallel processing systems; Computer workstations; Algorithms; Virtual reality; Interfaces (computer)

Identifiers: **Virtual machines**

Classification Codes:

931.3 (Atomic & Molecular Physics); 722.4 (Digital Computers & Systems)

931 (Applied Physics); 723 (Computer Software); 722 (Computer Hardware)

93 (ENGINEERING PHYSICS); 72 (COMPUTERS & DATA PROCESSING)

23/5/3 (Item 3 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

04726207 E.I. No: EIP97063700279

**Title: Coordinated backward recovery between client processes and data servers**

Author: Strigini, L.; Di Giandomenico, F.; Romanovsky, A.

Corporate Source: City Univ, London, UK

Source: IEE Proceedings Software Engineering v 144 n 2 Apr 1997. p 134-146

Publication Year: 1997

CODEN: 002590 ISSN: 1364-5080

Language: English

Document Type: JA; (Journal Article) Treatment: G; (General Review)

Journal Announcement: 9708W2

**Abstract:** The authors discuss backward error recovery for complex software systems, where different subsystems may belong to essentially different application areas. Such heterogeneous subsystems are naturally built according to different design 'models', namely the 'object-action' model (where the long-term state of the computation is encapsulated in data objects, and active processes invoke operations on these objects), and the 'process-conversation' model (where the state is contained in the processes, communicating via messages). To allow backward error recovery in these two 'models' of computation, two different schemes are most appropriate: **atomic transactions** for the object-action model, and conversations for the process-conversation model. Assuming that each of these two kinds of subsystem already has functioning mechanisms for backward error recovery, the authors describe the additional provisions needed for co-ordination between these heterogeneous subsystems. The solution involves altering the **virtual machine** on which the programs run, and programming conventions which seem rather natural and can be automatically enforced. The approach is demonstrated by a simple example. (Author abstract) 23 Refs.

Descriptors: \*Software engineering; Computer system recovery; Computer simulation; Computational methods

Identifiers: **Data server; Atomic transactions**

Classification Codes:

723.1 (Computer Programming); 723.5 (Computer Applications); 721.1

(Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory)

723 (Computer Software); 721 (Computer Circuits & Logic Elements)

72 (COMPUTERS & DATA PROCESSING)

23/5/4 (Item 4 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

04602306 E.I. No: EIP97013495936

**Title: DiET: A distributed extended transaction processing framework**

Author: Prasad, K. Hari; Nayak, T.K.; Ghosh, R.K.

Corporate Source: WIPRO Infotech, Bangalore, India

Conference Title: Proceedings of the 1996 3rd International Conference on High Performance Computing, HiPC

Conference Location: Trivandrum, India Conference Date: 19961219-19961222

Sponsor: IEEE; ACM SIGARCH

E.I. Conference No.: 45855

Source: Proceedings of the 1996 3rd International Conference on High Performance Computing, HiPC 1996. IEEE, Piscataway, NJ, USA, 96TB100074. p 114-119

Publication Year: 1996

CODEN: 002504

Language: English

Document Type: CA; (Conference Article) Treatment: G; (General Review); T; (Theoretical)

Journal Announcement: 9703W2

Abstract: DiET provides a framework to experiment with extended **transaction** models and also to synthesize new models. As case studies nested and split-join **transaction** types have been implemented. DiET is a framework loosely coupled with a distributed **storage** manager and PVM. Such a coupling enables DiET to cope up with a wide variety of **storage** manager and distributed process manager without any difficulty. The performance measures indicate high speedup for complex applications.

(Author abstract) 5 Refs.

Descriptors: Distributed computer systems; Digital **storage**; Computer software; Interfaces (computer); Data communication systems

Identifiers: Distributed extended **transaction** (DiET); Parallel **virtual machine** (PVM); Distributed process manager

Classification Codes:

722.4 (Digital Computers & Systems); 722.1 (Data Storage, Equipment & Techniques); 722.2 (Computer Peripheral Equipment)

722 (Computer Hardware); 723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

23/5/5 (Item 5 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

03417778 E.I. Monthly No: EIM9204-020809

**Title: Flexible schemes for application-level fault tolerance.**

Author: Strigini, L.; Di Giandomenico, F.

Corporate Source: IEI-CNR, Pisa, Italy

Conference Title: Proceedings of the 10th Symposium on Reliable Distributed Systems

Conference Location: Pisa, Italy Conference Date: 19910930

Sponsor: IEEE Computer Soc; AICA; IFIP WG 10.4; Istituto di Elaborazione dell'Informazione CNR-Pisa; Univ di Bologna; et al

E.I. Conference No.: 16059

Source: Proceedings - Symposium on Reliability in Distributed Software and Database Systems. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA (IEEE cat n 91CH3021-3). p 86-95

Publication Year: 1991

CODEN: PRDSEJ ISBN: 0-8186-2260-1

Language: English  
Document Type: PA; (Conference Paper) Treatment: A; (Applications); T;  
(Theoretical)  
Journal Announcement: 9204  
Abstract: It is pointed out that the design of fault-tolerance provisions in the application level is normally necessary, but difficult and error-prone due to its ad-hoc nature. Structuring schemes have been proposed to reduce the difficulty of this task, but they appear too restrictive for the building of large, heterogeneous applications. The redundant structures that can be used in the individual components of a system depend on their requirements or inherent characteristics: it would be useful to combine components using different basic schemes. As an example, the authors propose a solution for interfacing components using conversations for backward recovery with components using **atomic transactions**. Constraints for the designers of the components to be interfaced and requirements on the **virtual machine** supporting their execution are defined. Ways a classification of components could be organized to allow the formulation of more general solutions are discussed. 26 Refs.  
Descriptors: \*COMPUTER SYSTEMS, DIGITAL--\*Fault Tolerant Capability; COMPUTER SOFTWARE--Redundancy  
Identifiers: APPLICATION-LEVEL FAULT TOLERANCE; BACKWARD ERROR RECOVERY; **VIRTUAL MACHINE**  
Classification Codes:  
722 (Computer Hardware); 723 (Computer Software)  
72 (COMPUTERS & DATA PROCESSING)

23/5/6 (Item 6 from file: 8)  
DIALOG(R)File 8:Ei Compendex(R)  
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

03338972 E.I. Monthly No: EIM9111-060136  
Title: **Exploiting parallelism in the implementation of AGNA, a persistent programming system.**  
Author: Nikhil, Rishiyur S.; Heytens, Michael L.  
Corporate Source: MIT, Cambridge, MA, USA  
Conference Title: Proceedings of the 7th International Conference on Data Engineering  
Conference Location: Kobe, Jpn Conference Date: 19910408  
Sponsor: IEEE Computer Soc  
E.I. Conference No.: 15148  
Source: Proceedings - International Conference on Data Engineering. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA (IEEE cat n 91CH2968-6). p 660-669  
Publication Year: 1991  
CODEN: PIDEEG ISBN: 0-8186-2138-9  
Language: English  
Document Type: PA; (Conference Paper) Treatment: A; (Applications); T; (Theoretical)  
Journal Announcement: 9111  
Abstract: A design for AGNA, a persistent object system that utilizes parallelism in a fundamental way to enhance performance, is presented. The underlying thesis is that fine-grained parallelism is essential for achieving scalable performance on parallel multiple instruction/multiple data (MIMD) machines. This, in turn, implies a data-driven model of computation for efficiency. The complete design based on these principles starts with a declarative source language because such languages reveal the most fine-grained parallelism. It is described how transactions are compiled into an abstract, fine-grained parallel machine called P-RISC. The P-RISC **virtual heap** is implemented in the memory and disks of a parallel machine in such a way that paging is overlapped with useful computation. The current implementation status is described, some preliminary performance results are reported and the approach presented is compared to several recent parallel database system projects. 26 Refs.  
Descriptors: \*DATABASE SYSTEMS--\*Design; COMPUTER PROGRAMMING--Object Oriented Programming; COMPUTER SYSTEMS, DIGITAL--Parallel Processing;

COMPUTER ARCHITECTURE

Identifiers: MIMD ARCHITECTURE; COMPUTATIONAL MODELS

Classification Codes:

723 (Computer Software); 722 (Computer Hardware)

72 (COMPUTERS & DATA PROCESSING)

23/5/7 (Item 7 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

03102633 E.I. Monthly No: EI9108090213

**Title: Architecture and implementation of guide, an object-oriented distributed system.**

Author: Balter, R.; Bernadat, J.; Decouchant, D.; Duda, A.; Freyssinet, A.; Krakowiak, S.; Meysembourg, M.; Le Dot, P.; Nguyen Van, H.; Paire, E.; Riveill, M.; Roisin, C.; Rousset de Pina, X.; Scioville, R.; Vandome, G.

Corporate Source: Unite Mixte Bull-IMAG

Source: Computing Systems v 4 n 1 Winter 1991 p 31-67

Publication Year: 1991

CODEN: CMSYE2 ISSN: 0895-6340

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9108

Abstract: This paper describes the architecture and implementation of an object-oriented distributed operating system. The system is called Guide (Grenoble Universities Integrated Distributed Environment). Its main features are the following: an object model is embodied in a language including the notions of type and class with single inheritance; execution units (jobs) are multi-threaded **virtual machines** that may dynamically diffuse to several nodes; objects are dynamically linked to jobs, and may be shared between jobs; the system provides a distributed object **memory** for the **storage** of persistent objects; the system supports synchronized objects and **transactions**. The paper describes the general organization of the system, execution structures, object **memory** and **transactions**. The first implementation on top of UNIX is described. Some performance figures and a first qualitative evaluation are given. (Author abstract) 18 Refs.

Descriptors: COMPUTER OPERATING SYSTEMS--\*UNIX; COMPUTER ARCHITECTURE; COMPUTER SYSTEMS, DIGITAL--Distributed; COMPUTER PROGRAMMING--Object Oriented Programming; DATA **STORAGE** UNITS

Identifiers: DISTRIBUTED OPERATING SYSTEMS; OBJECT ORIENTED OPERATING SYSTEMS; GUIDE OPERATING SYSTEM; GRENOBLE UNIVERSITIES INTEGRATED DISTRIBUTED ENVIRONMENT; VIRTUAL OBJECT **MEMORY** ; **MEMORY** MANAGEMENT

Classification Codes:

723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

23/5/8 (Item 8 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

02746178 E.I. Monthly No: EI8906050214

**Title: Analysis of block-paging strategies.**

Author: Tetzlaff, William H.; Kienzle, Martin G.; Garay, Juan A.

Corporate Source: IBM Thomas J. Watson Research Cent, Yorktown Heights, NY, USA

Source: IBM Journal of Research and Development v 33 n 1 Jan 1989 p 51-59

Publication Year: 1989

CODEN: IBMJAE ISSN: 0018-8646

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 8906

Abstract: The performance of interactive paging systems in general and **Virtual Machine** /System Product (VM/SP) systems with the High Performance Option (HPO) in particular depends upon locality of reference. This **storage** -management dependency, often considered in the context of

individual programs, extends to a significant degree across most **virtual - machine transactions**. This paper investigates strategies to exploit locality of reference at the system level by analyzing page-reference strings gathered from live systems. Alternative strategies are evaluated using trace-driven simulations. (Edited author abstract) 13 Refs.

Descriptors: DATA **STORAGE**, DIGITAL--\*Virtual; COMPUTER PROGRAMMING; DATA PROCESSING

Identifiers: BLOCK-PAGING STRATEGIES; INTERACTIVE PAGING; **STORAGE** -MANAGEMENT DEPENDENCY; **VIRTUAL - MACHINE TRANSACTIONS**; PAGE-REFERENCE STRINGS; TRACE-DRIVEN SIMULATIONS

Classification Codes:

721 (Computer Circuits & Logic Elements); 722 (Computer Hardware); 723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

23/5/9 (Item 1 from file: 202)

DIALOG(R) File 202:Info. Sci. & Tech. Abs.

(c) 2004 EBSCO Publishing. All rts. reserv.

1100613

**Secure computer operation with virtual machine partitioning.**

Book Title: In American Federation Of Information Processing Societies. Afips Conference Proceedings. Volume 44. 1975 National Computer Conference, May 19-22, 1975, Anaheim, California. P. 929-934. 3 Illus. 7 Ref. See Isa 76-009/y.

Author(s): Weissman, Clark

Corporate Source: System Development Corporation, Santa Monica, California

Publication Date: 1975

Language: English

Document Type: Book Chapter

Record Type: Abstract

Journal Announcement: 1100

Positive security can currently be obtained by periods processing (pp) wherein the computer facility is physically isolated, electro-magnetic radiation is reduced by shielding, access is limited to only authorized persons, all i/o media and digital communications crossing the perimeter are "cleared," labeled, and logged. At the end of each job, the **memory** must be cleared and i/o controlled; at the end of the period, material is secured in vaults and all printer ribbons, etc. Are destroyed, resulting in about 30 minutes of unusable cpu time. This procedure is required by the department of defense. If multiple machines are available, each may be operated at different security levels, reducing set-up and sanitization time and permitting multiprogramming of like-clearance jobs. The thesis of this paper is replacement of the multiple physical machines by **virtual machines**. The heart of the vm/370 hardware. Program the divides the hardware, by simulation, into a multiplicity of **virtual machines** that are identical in program execution to the bare s/370 hardware. The salient characteristics of vm and pp modes of secure facility operation are listed and compared. A four-stage, along range strategy to secure **virtual - machine** -based multiprogramming computer operation is divided into four perimeters: physical, composite, software, and logical. The vm protects against internal attack; secure-subsystems control the use of **transaction** resources and allow safe communication between vm's. The flaw hypothesis methodology was employed to indicate vm/370 security weaknesses which are being corrected.

Classification Codes and Description: 5.10 (Security Considerations)

Main Heading: Information Processing and Control

23/5/10 (Item 1 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

7195338 INSPEC Abstract Number: C2002-04-6150N-025

**Title: Multiple subtyping in a persistent distributed shared memory operating system**

Author(s): Schoettner, M.; Schirpf, O.; Wende, M.; Schulthess, P.

Author Affiliation: Dept. of Distributed Syst., Ulm Univ., Germany

Conference Title: Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications. PDPTA'2000 Part vol.1 p.565-71 vol.1

Editor(s): Arabnia, H.R.

Publisher: CSREA Press, Athens, GA, USA

Publication Date: 2000 Country of Publication: USA 5 vol. 3015 pp.

ISBN: 1 892512 52 1 Material Identity Number: XX-2000-02105

Conference Title: 2000 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2000)

Conference Date: 26-29 June 2000 Conference Location: Las Vegas, NV, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Plurix is an object-oriented operating system (OS) developed for the PC platform. Network communication is implemented via distributed shared **memory** (DSM) management using restartable **transactions** and optimistic synchronization. The OS is developed with a proprietary Java compiler transforming Java sources into Intel protected mode code. Abandoning the hardware independence of Java eliminates loss of performance and allows developing the total OS in Java. In this paper we focus on Java interfaces offering multiple subtyping in the Plurix OS but our approach is applicable to any other strong typing object-oriented language. After a short review of the Plurix **environment** we consider how **Java** interfaces are realized efficiently with respect to method dispatch overhead. We show how the Java typing rules are realized using pseudo subtyping. Furthermore we reveal interesting semantic ambiguities of interface reference members arising in a persistent DSM. We suggest extended initialization rules to overcome these problems. In this context we also introduce meta interface descriptors together with a generalized type equivalence check scheme. (16 Refs)

Subfile: C

Descriptors: application program interfaces; distributed shared **memory** systems; Java; network operating systems; object-oriented programming; program compilers

Identifiers: multiple subtyping; persistent distributed shared **memory** operating system; Plurix; PC platform; network communication; restartable **transactions**; optimistic synchronization; Java compiler; Intel protected mode code; Java interfaces; method dispatch overhead; Java typing rules; pseudo subtyping; semantic ambiguities; interface reference members; extended initialization rules; meta interface descriptors; generalized type equivalence check scheme

Class Codes: C6150N (Distributed systems software); C6110J (Object-oriented programming); C6150J (Operating systems); C6150E (General utility programs); C6150C (Compilers, interpreters and other processors)

Copyright 2002, IEE

23/5/11 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6657544 INSPEC Abstract Number: C2000-09-5440-009

**Title: Fast and cost effective cache invalidation in DSM**

Author(s): Chang-Kyu Lee; Jong Hyuk Choi; Kyu Ho Park; Bong Wan Kim

Author Affiliation: CORE Lab., Korea Adv. Inst. of Sci. & Technol., Taejon, South Korea

Conference Title: Proceedings Seventh International Conference on Parallel and Distributed Systems (Cat. No.PR00568) p.492-7

Editor(s): Takizawa, M.

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 2000 Country of Publication: USA xix+554 pp.

ISBN: 0 7695 0568 6 Material Identity Number: XX-2000-01630

U.S. Copyright Clearance Center Code: 0 7695 0568 6/2000/\$10.00

Conference Title: Proceedings of the Seventh International Conference on Parallel and Distributed Systems

Conference Sponsor: IEEE Comput. Soc.; Iwate Prefectural Univ., Japan; Takizawa Village, Japan; Morioka City, Japan; Iwate Prefecture, Japan; Commun. Res. Lab. (CRL) of Minst. Post Office, Japan; IEEE Taipei Sect., Taiwan; Inf. Process. Soc. Japan (IPSJ), Japan

Conference Date: 4-7 July 2000 Conference Location: Iwate, Japan

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: Most distributed shared **memory** systems use point-to-point networks in conjunction with directory-based **cache** coherence protocols. A **cache** invalidation **transaction** generates a number of unicast invalidation messages and as many acknowledgment messages. This results in heavy network traffic, high latency, and high occupancy at home nodes. This paper introduces a fast **cache** invalidation method, called collective **cache** invalidation (CCI), and its simple and cost effective implementation method, called virtual bus based collective **cache** invalidation (VCCI). The simulation results show that we can reduce the total network traffic up to 45% and the overall execution time up to 11% by VCCI. The proposed method keeps the system scalable-the growth rate of the implementation cost is  $O(N \text{ square root } N)$ , and, VCCI can reduce the complexity of coherence protocol and make directory controllers simple since it does not require acknowledgment messages. (14 Refs)

Subfile: C

Descriptors: **cache** **storage** ; distributed shared **memory** systems; protocols; **virtual** **machines**

Identifiers: distributed shared **memory** systems; point-to-point networks ; directory-based **cache** coherence protocols; **cache** invalidation **transaction** ; unicast invalidation messages; acknowledgment messages; network traffic; latency; home node occupancy; collective **cache** invalidation; virtual bus based collective **cache** invalidation; simulation ; execution time; directory controllers

Class Codes: C5440 (Multiprocessing systems); C6120 (File organisation) ; C5320G (Semiconductor storage)

Copyright 2000, IEE

23/5/12 (Item 3 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6590311 INSPEC Abstract Number: C2000-06-7430-007

Title: **Support for recoverable memory in the distributed virtual communication machine**

Author(s): Rosu, M.-C.; Schwan, K.

Author Affiliation: IBM Thomas J. Watson Res. Center, Yorktown Heights, NY, USA

Conference Title: Proceedings 14th International Parallel and Distributed Processing Symposium. IPDPS 2000 p.191-8

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 2000 Country of Publication: USA xxiii+842 pp.

ISBN: 0 7695 0574 0 Material Identity Number: XX-2000-00911

U.S. Copyright Clearance Center Code: 0 7695 0574 0/2000/\$10.00

Conference Title: Proceedings 14th International Parallel and Distributed Processing Symposium. IPDPS 2000

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Parallel Process.; ACM

Conference Date: 1-5 May 2000 Conference Location: Cancun, Mexico

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: Distributed Virtual Communication Machine (DVCM) is a software communication architecture for clusters of workstations equipped with programmable network interfaces (NIs) for high-speed networks. DVCM is an extensible architecture, which promotes the transfer of application modules to the NI. By executing "closer" to the network, on the NI CoProcessor, these modules can communicate with significantly higher message rates and lower latencies than achievable at the CPU-level. This paper describes how



DVCM modules can be used to enhance the performance of the Cluster Recoverable **Memory** system (CRMem), a **transaction** -processing kernel for **memory** -resident databases. By using the NI CoProcessor for CRMem's remote operations, our implementation achieves more than 3,000 trans/sec on a simplified TpcB benchmark. (20 Refs)

Subfile: C

Descriptors: network interfaces; performance evaluation; **virtual machines**

Identifiers: recoverable **memory** ; distributed virtual communication machine; software communication architecture; clusters of workstations; programmable network interfaces; high-speed networks; extensible architecture; application modules; performance evaluation; cluster recoverable **memory** system; **transaction** -processing kernel; **memory** -resident databases; TpcB benchmark

Class Codes: C7430 (Computer engineering); C5470 (Performance evaluation and testing); C5610N (Network interfaces)

Copyright 2000, IEE

23/5/13 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6589328 INSPEC Abstract Number: B2000-06-1265D-040, C2000-06-5320G-024

Title: **POPeYE: a system analysis tool for DRAM performance measurement**

Author(s): Yon-Kyun Im; Chi-Weon Yoon; Hoi-Jun Yoo; Tae-Sung Jung

Author Affiliation: Dept. of Electr. Eng., Korea Adv. Inst. of Sci. & Technol., Seoul, South Korea

Conference Title: ICVC '99. 6th International Conference on VLSI and CAD (Cat. No.99EX361) p.590-2

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 1999 Country of Publication: USA xvii+620 pp.

ISBN: 0 7803 5727 2 Material Identity Number: XX-2000-00114

U.S. Copyright Clearance Center Code: 0 7803 5727 2/99/\$10.00

Conference Title: ICVC'99. 6th International Conference on VLSI and CAD

Conference Sponsor: Korea Semicond. Ind. Assoc.; Hyundai MicroElectron. Co.; IEEK; IEEE Korea Council; SEMI Korea; IEEE Electron Devices Soc.; IEEE Solid-State Circuit

Conference Date: 26-27 Oct. 1999 Conference Location: Seoul, South Korea

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P); Experimental (X)

Abstract: We propose POPeYE that can measure and analyze the performance of the DRAM in real PC environment. POPeYE is composed of a virtual PC and hardware structural simulator. Virtual PC of POPeYE emulates the total PC system on Unix environment. While running real applications such as Windows95 and MS-office, POPeYE's hardware structural simulator can offer the detailed information of **transactions** between CPU and **memory** system. (6 Refs)

Subfile: B C

Descriptors: circuit simulation; DRAM chips; performance evaluation; Unix ; **virtual machines**

Identifiers: POPeYE; system analysis tool; DRAM performance measurement; virtual PC; hardware structural simulator; Unix environment; real applications; **memory** system

Class Codes: B1265D (Memory circuits); B1130B (Computer-aided circuit analysis and design); C5320G (Semiconductor storage); C7410D (Electronic engineering computing); C5470 (Performance evaluation and testing)

Copyright 2000, IEE

23/5/14 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6535279 INSPEC Abstract Number: C2000-04-7430-010

Title: **Modeling and simulative performance analysis of SMP and clustered**

**computer architectures**

Author(s): Burns, M.W.; George, A.D.; Wallace, B.A.  
Author Affiliation: Dept. of High-Performance Comput. & Simulation,  
Florida Univ., Gainesville, FL, USA  
Journal: Simulation vol.74, no.2 p.84-96  
Publisher: Simulation Councils,  
Publication Date: Feb. 2000 Country of Publication: USA  
CODEN: SIMUA2 ISSN: 0037-5497  
SICI: 0037-5497(200002)74:2L:84:MSPA;1-Y  
Material Identity Number: S024-2000-003  
Language: English Document Type: Journal Paper (JP)  
Treatment: Practical (P)

Abstract: The performance characteristics of several classes of parallel computing systems are analyzed and compared using high-fidelity modeling and execution-driven simulation. Processor, bus and network models are used to construct and simulate the architectures of symmetric multiprocessors (SMPs), clusters of uniprocessors, and clusters of SMPs. To demonstrate a typical use, the performance of ten systems is evaluated using a parallel matrix-multiplication algorithm. Because the performance of a parallel algorithm on an architecture depends on its communication-to-computation ratio, and analysis of communication latencies for bus **transactions**, **cache** coherence, and network **transactions** are used to quantify each system's communication overhead. While low-level performance attributes are difficult to measure on experimental testbed systems, and are difficult to accurately represent in purely analytical models, with high-fidelity simulative models they can be readily and accurately obtained. This level of detail allows the designer to rapidly prototype and evaluate the performance of parallel and distributed systems. (24 Refs)

Subfile: C

Descriptors: matrix multiplication; multiprocessing systems; parallel algorithms; parallel machines; performance evaluation; **virtual machines**; workstation clusters

Identifiers: performance analysis; clustered computer architectures; parallel computing; high-fidelity modeling; execution-driven simulation; symmetric multiprocessors; uniprocessor clusters; parallel matrix-multiplication algorithm; communication-to-computation ratio; communication latencies; bus **transactions**; **cache** coherence; network **transactions**; distributed systems

Class Codes: C7430 (Computer engineering); C5470 (Performance evaluation and testing); C5620L (Local area networks); C5440 (Multiprocessing systems); C4240P (Parallel programming and algorithm theory)

Copyright 2000, IEE

23/5/15 (Item 6 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6435263 INSPEC Abstract Number: C2000-01-7100-088

**Title: Architecture for multifunctional smartcard applications**

Author(s): Rietdijk, J.W.; Spoelstra, F.  
Author Affiliation: Interplay Nederland, Netherlands  
Journal: Informatie vol.41, spec. issue. p.18-26  
Publisher: Kluwer Bedrijfs wetenschappen,  
Publication Date: Sept. 1999 Country of Publication: Netherlands  
CODEN: INFTCR ISSN: 0019-9907  
SICI: 0019-9907(199909)41L:18:AMSA;1-O  
Material Identity Number: I229-1999-008  
Language: Dutch Document Type: Journal Paper (JP)  
Treatment: General, Review (G)

Abstract: The growth of multifunctional smartcards is discussed, with reference to the most widely used smartcards in the Netherlands. An organisational architecture is described, and developments in system architecture components are discussed. The main objective in smartcard development is interoperability, and the development of JavaCard, Multos and WindowsCard are considered in this context. Regarding terminals, the

Open Terminal Architecture (OTA) and K **Virtual Machine** (KVM) are significant developments, together with the potential for the growth of the pay terminal infrastructure. Smartcard introduction in the public transport sector is described as an example. Important factors in smartcard system architecture are discussed, including data **storage** , online/offline **transactions** , security and privacy. (7 Refs)

Subfile: C

Descriptors: data privacy; open systems; security of data; smart cards

Identifiers: multifunctional smartcard applications; system architecture components; interoperability; JavaCard; Multos; WindowsCard; Open Terminal Architecture; OTA; K **Virtual Machine** ; KVM; pay terminal infrastructure; public transport; data **storage** ; online **transactions** ; offline **transactions** ; security; privacy

Class Codes: C7100 (Business and administration); C6150N (Distributed systems software); C6130S (Data security)

Copyright 1999, IEE

23/5/16 (Item 7 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6117157 INSPEC Abstract Number: C9902-6160D-002

Title: **Performance of database workloads on shared- memory systems with out-of-order processors**

Author(s): Ranganathan, P.; Gharachorloo, K.; Adve, S.V.; Barroso, L.A.

Author Affiliation: Dept. of Electr. & Comput. Eng., Rice Univ., Houston, TX, USA

Journal: SIGPLAN Notices Conference Title: SIGPLAN Not. (USA) vol.33, no.11 p.307-18

Publisher: ACM,

Publication Date: Nov. 1998 Country of Publication: USA

CODEN: SINODQ ISSN: 0362-1340

SICI: 0362-1340(199811)33:11L:307:PDWS;1-D

Material Identity Number: S202-98013

Conference Title: ASPLOS-VIII. Eighth International Conference on Architectural Support for Programming Languages and Operating Systems

Conference Sponsor: ACM

Conference Date: 3-7 Oct. 1998 Conference Location: San Jose, CA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P)

Abstract: Database applications such as online **transaction** processing (OLTP) and decision support systems (DSS) constitute the largest and fastest-growing segment of the market for multiprocessor servers. However, most current system designs have been optimized to perform well on scientific and engineering workloads. Given the radically different behavior of database workloads (especially OLTP), it is important to re-evaluate key system design decisions in the context of this important class of applications. This paper examines the behavior of database workloads on shared- **memory** multiprocessors with aggressive out-of-order processors, and considers simple optimizations that can provide further performance improvements. Our study is based on detailed simulations of the Oracle commercial database engine. The results show that the combination of out-of-order execution and multiple instruction issue is indeed effective in improving performance of database workloads, providing gains of 1.5 and 2.6 times over an in-order single-issue processor for OLTP and DSS, respectively. In addition, speculative techniques enable optimized implementations of **memory** consistency models that significantly improve the performance of stricter consistency models, bringing the performance to within 10-15% of the performance of more relaxed models. The second part of our study focuses on the more challenging OLTP workload. (31 Refs)

Subfile: C

Descriptors: data mining; database machines; decision support systems; relational databases; shared **memory** systems; **virtual machines**

Identifiers: database workload performance; shared- **memory** systems; out-of-order processors; online **transaction** processing; decision support

systems; multiprocessor servers; scientific workloads; engineering workloads; system design decisions; aggressive out-of-order processors; optimizations; performance improvements; Oracle commercial database engine; out-of-order execution; multiple instruction issue; speculative techniques; **memory** consistency models

Class Codes: C6160D (Relational databases); C6170K (Knowledge engineering techniques); C7102 (Decision support systems); C5440 (Multiprocessing systems)

Copyright 1998, IEE

23/5/17 (Item 8 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6034574 INSPEC Abstract Number: C9811-6160B-018

**Title: Two-stage transaction processing in client-server DBMSs**

Author(s): Kanitkar, V.; Delis, A.

Author Affiliation: Dept. of Comput. & Inf. Sci., Polytech. Univ., Brooklyn, NY, USA

Conference Title: Proceedings. The Seventh International Symposium on High Performance Distributed Computing (Cat. No.98TB100244) p.98-105

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 1998 Country of Publication: USA xii+371 pp.

ISBN: 0 8186 8579 4 Material Identity Number: XX98-02382

U.S. Copyright Clearance Center Code: 0 8186 8579 4/98/\$10.00

Conference Title: Proceedings The Seventh International Symposium on High Performance Distributed Computing

Conference Sponsor: Argonne Nat. Lab.; HPDC Lab. Syracuse Univ.; IEEE Comput. Soc

Conference Date: 28-31 July 1998 Conference Location: Chicago, IL, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Experimental (X)

Abstract: Shows that there is scope for replication in data-shipping client-server DBMSs, offering opportunities for improved **transaction** response times. To support this replication, we describe a two-stage protocol for **transaction** processing (2STP). We extend the conventional client-server data-shipping mechanism by allowing clients to update and query **cached** objects that have replicas in multiple sites. We use the concept of acceptance criteria to provide a means for the flexible handling of client updates. The effectiveness of the two-stage **transaction** processing mechanism is supported by means of queuing analysis and detailed simulation experiments comparing 2STP with a global lock-based data-shipping protocol. This improvement in **transaction** processing efficiency is achieved at the cost of longer downtimes for crash recovery.

(25 Refs)

Subfile: C

Descriptors: client-server systems; protocols; queueing theory; replicated databases; system recovery; **transaction** processing; **virtual machines**

Identifiers: two-stage **transaction** processing protocol; object replication; client-server DBMS; data-shipping mechanism; **transaction** response times; **cached** object updating; **cached** object querying; acceptance criteria; flexible handling; queuing analysis; simulation; global lock-based data-shipping protocol; downtimes; crash recovery; **transaction** processing efficiency

Class Codes: C6160B (Distributed databases); C5640 (Protocols); C1140C (Queueing theory); C7430 (Computer engineering)

Copyright 1998, IEE

23/5/18 (Item 9 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5985702 INSPEC Abstract Number: C9809-6110B-037

**Title: How fail-stop are faulty programs?**

Author(s): Chandra, S.; Chen, P.M.  
 Author Affiliation: Dept. of Electr. Eng. & Comput. Sci., Michigan Univ., MI, USA  
 Conference Title: Digest of Papers. Twenty-Eighth Annual International Symposium on Fault-Tolerant Computing (Cat. No.98CB36224) p.240-9  
 Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA  
 Publication Date: 1998 Country of Publication: USA xx+470 pp.  
 ISBN: 0 8186 8470 4 Material Identity Number: XX98-01770  
 U.S. Copyright Clearance Center Code: 0731-3071/98/\$10.00  
 Conference Title: Proceedings of 28th International Symposium on Fault Tolerant Computing  
 Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Fault-Tolerant Comput.; IFIP WG 10.4 on Dependable Comput. & Fault Tolerance  
 Conference Date: 23-25 June 1998 Conference Location: Munich, Germany  
 Language: English Document Type: Conference Paper (PA)  
 Treatment: Practical (P); Experimental (X)  
 Abstract: Most fault-tolerant systems are designed to stop faulty programs before they write permanent data or communicate with other processes. This property (halt-on-failure) forms the core of the fail-stop model. Unfortunately, little experimental data exists on whether or not program failures follow the fail-stop model. This paper describes a tool, based on the SimOS complete-machine simulator that can trace how faults propagate through **memory**, disk, and functions. Using this tool on the Postgres database system, we conduct a controlled experiment to measure how often faulty programs violate the fail-stop model. We find that a significant number of faults (7%) violate the fail-stop model by writing incorrect data to stable **storage** before halting. We then apply Postgres' **transaction** mechanism to undo recent changes before a crash and find that **transactions** reduce fail-stop violations by a factor of 3. (23 Refs)  
 Subfile: C  
 Descriptors: relational databases; software fault tolerance; system recovery; **transaction** processing; **virtual machines**  
 Identifiers: fault-tolerant systems; faulty programs; halt-on-failure; fail-stop model; SimOS; complete-machine simulator; Postgres database; experiment; **transaction** processing  
 Class Codes: C6110B (Software engineering techniques); C6160D (Relational databases)  
 Copyright 1998, IEE

23/5/19 (Item 10 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5953922 INSPEC Abstract Number: C9808-6160-004

Title: **Performance evaluation of three logging schemes for a shared-nothing database server**

Author(s): Kam-Fai Wong

Author Affiliation: Dept. of Syst. Eng. & Eng. Manage., Chinese Univ. of Hong Kong, Shatin, Hong Kong

Journal: Simulation Practice and Theory vol.6, no.4 p.337-68

Publisher: Elsevier,

Publication Date: 15 May 1998 Country of Publication: Netherlands

CODEN: SPTHEH ISSN: 0928-4869

SICI: 0928-4869(19980515)6:4L:337:PETH;1-E

Material Identity Number: B363-98004

U.S. Copyright Clearance Center Code: 0928-4869/98/\$19.00

Document Number: S0928-4869(97)00004-9

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: The European declarative system (EDS) is a high performance backend database server designed for a range of commercial mainframes. One major application domain of EDS is information processing for business and commercial environments. High performance is achieved by exploiting parallelism using a shared-nothing computer (up to 256 processors) and by reducing data access latency using large main **memory storage** (up to 4 Gbytes per PE) to hold the entire database in **memory** at processing time.

Reliability is a crucial design issue for commercial and business information systems. Recovery control facilitates reliability and logging forms an important part of it. In general, logging is costly to implement it is usually achieved in the expense of reduced system performance. A desirable logging scheme should not overload the database management system resulting in poor system performance. Three logging schemes have been studied for EDS: (a) local discs-adopt a conventional approach by incorporating a local disc on each processor; (b) duplexing-arrange the processors in pairs, one for database operations and one for backup; and (c) cooperative logging-similar to duplexing except database and backup operations are performed on a single processor. The performance of these schemes for on-line **transaction** processing was evaluated and compared using the EDS behavioral simulator. The results of the evaluations are presented. (18 Refs)

Subfile: C

Descriptors: business data processing; concurrency control; database management systems; file servers; parallel processing; performance evaluation; reliability; **storage** management; system recovery; **transaction** processing; **virtual machines**

Identifiers: performance evaluation; logging schemes; shared-nothing database server; European declarative system; high performance backend database server; commercial mainframes; information processing; parallelism ; data access latency reduction; large main **memory storage** ; reliability ; business information systems; commercial information systems; recovery control; database management system; local discs; duplexing; cooperative logging; backup operations; on-line **transaction** processing; EDS behavioral simulator; 4 Gbyte

Class Codes: C6160 (Database management systems (DBMS)); C7100 (Business and administration); C6120 (File organisation); C6150G (Diagnostic, testing, debugging and evaluating systems); C6150N (Distributed systems software); C5220P (Parallel architecture); C6130 (Data handling techniques)

Numerical Indexing: memory size 4.3E+09 Byte

Copyright 1998, IEE

23/5/20 (Item 11 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5907557 INSPEC Abstract Number: C9806-7430-001

**Title: The design of COMPASS: an execution driven simulator for commercial applications running on shared memory multiprocessors**

Author(s): Nanda, A.K.; Hu, Y.; Ohara, M.; Benveniste, C.D.; Giampapa, M.E.; Michael, M.

Author Affiliation: IBM Thomas J. Watson Res. Center, Yorktown Heights, NY, USA

Conference Title: Proceedings of the First Merged International Parallel Processing Symposium and Symposium on Parallel and Distributed Processing (Cat. No.98TB100227) p.503-9

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 1998 Country of Publication: USA xxv+809 pp.

ISBN: 0 8186 8404 6 Material Identity Number: XX98-00900

U.S. Copyright Clearance Center Code: 1063-7133/98/\$10.00

Conference Title: Proceedings of the First Merged International Parallel Processing Symposium and Symposium on Parallel and Distributed Processing

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Parallel Process.; ACM SIGARCH

Conference Date: 30 March-3 April 1998 Conference Location: Orlando, FL, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Although shared **memory** multiprocessors are becoming increasingly popular in the commercial market place, the applications used to evaluate such systems in both academia and industry are still predominantly technical applications such as the Stanford SPLASH2 benchmarks. The difficulty in using commercial parallel shared **memory**

applications such as **transaction** processing, decision support and web server applications has been in simulating the operating systems functions that are heavily used by these applications. We describe the design of an execution driven simulation tool called COMPASS (COMmercial PARallel Shared **memory** Simulator). We have used COMPASS at IBM to study the behavior of decision support applications and are currently studying the behavior of **transaction** processing applications and web servers. (14 Refs)

Subfile: C

Descriptors: operating systems (computers); parallel processing; scheduling; shared **memory** systems; software performance evaluation; **virtual machines**

Identifiers: COMPASS; execution driven simulator; commercial applications ; shared **memory** multiprocessors; academia; industry; technical applications; Stanford SPLASH2 benchmarks; parallel shared **memory** applications; **transaction** processing; decision support systems; web server; operating systems; execution driven simulation tool; Commercial Parallel Shared **Memory** Simulator; IBM

Class Codes: C7430 (Computer engineering); C6150N (Distributed systems software); C5440 (Multiprocessing systems)

Copyright 1998, IEE

23/5/21 (Item 12 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5870519 INSPEC Abstract Number: C9805-6160B-006

Title: **Real-time transaction processing capitalizing on the client cache in a client-server DBMS**

Author(s): Kang, H.; Han-Wool Chang

Author Affiliation: Dept. of Comput. Sci. & Eng., Chung-Ang Univ., Seoul, South Korea

Conference Title: Data Mining, Data Warehousing and Client/Server Databases. Proceedings of the 8th International Database Workshop p. 251-65

Editor(s): Fong, J.

Publisher: Springer-Verlag Singapore, Singapore

Publication Date: 1997 Country of Publication: Singapore xi+332 pp.

ISBN: 981 3083 54 9 Material Identity Number: XX98-00279

Conference Title: Proceedings of 8th International Hong Kong Computer Society Database Workshop. Data Mining, Data Warehousing and Client/Server Databases

Conference Sponsor: Oracle Syst. Hong Kong; NCR (Hong Kong); Sybase Hong Kong; Hewlett-Packard Hong Kong; et al

Conference Date: 29-31 July 1997 Conference Location: Hong Kong

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T); Experimental (X)

Abstract: Client **cache** data can enhance the performance of **transaction** processing in a client-server DBMS. It can improve the throughput of the committed **transactions** and it can reduce the response time of each individual **transaction**. Does this client caching also lend itself to processing of real-time **transactions** with timing constraints? In this paper, we address the issue of real-time **transaction** processing, capitalizing on the client **cache** in a client-server DBMS. We conducted a simulation study to evaluate the usefulness of client caching in meeting the deadlines of real-time **transactions**. The simulation results showed that, for workloads where the reference data locality is high, the percentage of **transactions** with missed deadlines was reduced considerably due to client caching. (17 Refs)

Subfile: C

Descriptors: **cache storage** ; client-server systems; concurrency control; distributed databases; real-time systems; software performance evaluation; timing; **transaction** processing; **virtual machines**

Identifiers: real-time **transaction** processing; client **cache** ; client-server DBMS; performance enhancement; committed **transaction** throughput; timing constraints; simulation; missed deadlines; workload; reference data locality

Class Codes: C6160B (Distributed databases); C4250 (Database theory);  
C7430 (Computer engineering)  
Copyright 1998, IEE

23/5/22 (Item 13 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5849868 INSPEC Abstract Number: C9804-6120-013  
Title: **Architectural support for synchronization of threads accessing variable-sized units of virtual memory**  
Author(s): Jutla, D.N.; Bodorik, P.  
Author Affiliation: St. Mary's Univ., Halifax, NS, Canada  
Conference Title: Proceedings of the Thirty-First Hawaii International Conference on System Sciences (Cat. No.98TB100216) Part vol.3 p. 197-206 vol.3  
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA  
Publication Date: 1998 Country of Publication: USA 7 vol. (xiv+689+ix+346+xi+470+xiv+581+xi+481+xiv+753+xvi+849) pp.  
ISBN: 0 8186 8255 8 Material Identity Number: XX98-00241  
U.S. Copyright Clearance Center Code: 1060-3425/98/\$10.00  
Conference Title: Proceedings of the Thirty-First Hawaii International Conference on System Sciences  
Conference Sponsor: Univ. Hawaii  
Conference Date: 6-9 Jan. 1998 Conference Location: Kohala Coast, HI, USA  
Language: English Document Type: Conference Paper (PA)  
Treatment: Theoretical (T)  
Abstract: The paper presents an architecture for synchronization of threads or tasks when accessing regions of virtual **memory**. Access control is defined on a **memory** region through a view that defines the size of access units and also the protocol in terms of a finite state machine (FSM). Variable-sized access units are obtained without altering the underlying fixed sized paging implementation. Trace-driven simulation is used to examine average delay for the PCU and to examine its performance when various parameters were varied. A TPC-C benchmark application under different **transaction** loads was traced and the results show that it is the number of TLB accesses (approximately 15 times more as compared to PCU accesses) for the modeled application that incurs the dominant delay. (29 Refs)  
Subfile: C  
Descriptors: finite state machines; **memory** architecture; paged **storage**; protocols; synchronisation; **virtual machines**  
Identifiers: thread synchronization; virtual **memory**; architectural support; task synchronization; access control; finite state machine; protocol; variable-sized access units; fixed sized paging implementation; trace-driven simulation; average delay; performance; TPC-C benchmark application; **transaction** loads  
Class Codes: C6120 (File organisation); C4220 (Automata theory); C5640 (Protocols)  
Copyright 1998, IEE

23/5/23 (Item 14 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5835509 INSPEC Abstract Number: C9803-6160B-026  
Title: **Offering parallelism to a sequential database management system on a network of workstations using PVM**  
Author(s): Exbrayat, M.; Kosch, H.  
Author Affiliation: Lab. d'Ingenierie des Syst. d'Inf., Inst. Nat. des Sci. Appliquees de Lyon, Villeurbanne, France  
Conference Title: Recent Advances in Parallel Virtual Machine and Message Passing Interface. 4th European PVM/MPI Users' Group Meeting. Proceedings p.457-62



Editor(s): Bubak, M.; Dongarra, J.; Wasniewski, J.  
Publisher: Springer-Verlag, Berlin, Germany  
Publication Date: 1997 Country of Publication: Germany xv+518 pp.  
ISBN: 3 540 63697 8 Material Identity Number: XX97-02731  
Conference Title: Recent Advances in Parallel Virtual Machine and Message  
Passing Interface. 4th European PVM/MPI Users Group Meeting. Proceedings  
Conference Date: 3-5 Nov. 1997 Conference Location: Cracow, Poland  
Language: English Document Type: Conference Paper (PA)  
Treatment: Practical (P)

Abstract: The considerable growth of on-line document searching and consulting behoves the data providers to reconsider their database management systems (DBMS) capacities. Parallel DBMS appear to be a good solution, but the changes involved in administration and cost limit their breakthrough. To overcome these drawbacks, we propose an hybrid structure, which adapts a parallel extension to an existing DBMS. This extension cuts down the amount of work of the sequential DBMS, by parallelizing the incoming queries over a network of workstations communicating with PVM. (12 Refs)

Subfile: C

Descriptors: distributed databases; distributed **memory** systems; local area networks; multiprocessing programs; network operating systems; parallel programming; query processing; **virtual machines**

Identifiers: parallelism; sequential database management system; network of workstations; PVM; online document searching; query parallelization; relational databases; online **transaction** processing; data extraction

Class Codes: C6160B (Distributed databases); C5620L (Local area networks); C6110P (Parallel programming); C6150N (Distributed systems software)  
Copyright 1998, IEE

23/5/24 (Item 15 from file: 2)  
DIALOG(R) File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5742158 INSPEC Abstract Number: C9712-5250-002

Title: **NStrace: a bus-driven instruction trace tool for PowerPC microprocessors**

Author(s): Sandon, P.A.; Liao, Y.-C.; Cook, T.E.; Schultz, D.M.; Martin-De-Nicolas, P.

Author Affiliation: Gen. Technol. Div., IBM Corp., Essex Junction, VT, USA

Journal: IBM Journal of Research and Development vol.41, no.3 p. 331-44

Publisher: IBM,

Publication Date: May 1997 Country of Publication: USA

CODEN: IBMJAE ISSN: 0018-8646

SICI: 0018-8646(199705)41:3L:331:NDIT;1-H

Material Identity Number: I057-97003

U.S. Copyright Clearance Center Code: 0018-8646/97/\$5.00

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: NStrace is a bus-driven hardware trace facility developed for the PowerPC family of superscalar RISC microprocessors. It uses a recording of activity on a target processor's bus to infer the sequence of instructions executed during that recording period. NStrace is distinguished from related approaches by its use of an architecture-level simulator to generate the instruction sequence from the bus recording. The generated trace represents the behavior of the processor as it executes at normal speed while interacting normally with its run-time environment. Furthermore, details of the processor state that are not generally available to other trace mechanisms can be provided by the architectural simulation. There are two main components to the process of generating bus-driven instruction traces: bus capture and trace generation. Bus capture is triggered by a call to a system program that puts a particular address on the bus, then establishes the initial state of the processor by a combination of writing out register values and invalidating **caches**. A logic analyzer records the bus activity, and from this a file of bus

**transactions** is produced. Trace generation proceeds by driving a processor simulator with these bus **transactions** and recording the sequence of instructions that results. The processor simulator is an elaboration of that developed for the PowerPC Visual Simulator. The authors have successfully generated instruction traces for a mix of utility programs and real applications on several microprocessor platforms running several operating systems. (22 Refs)

Subfile: C

Descriptors: microcomputers; reduced instruction set computing; system buses; utility programs; **virtual machines**

Identifiers: bus-driven instruction trace tool; bus-driven hardware trace facility; NStrace; PowerPC microprocessors; superscalar RISC microprocessors; target processor bus activity recording; instruction sequence; architecture-level simulator; run-time environment; trace generation; bus capture; system program call; address; written out register values; **cache** invalidation; logic analyzer; bus **transaction** file; utility programs; operating systems; real applications

Class Codes: C5250 (Microcomputer techniques); C5610S (System buses); C6150E (General utility programs); C5430 (Microcomputers)

Copyright 1997, IEEE

23/5/25 (Item 16 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5671675 INSPEC Abstract Number: C9710-5310-003

Title: **Disk caching in large database and timeshared systems**

Author(s): Zivkov, B.T.; Smith, A.J.

Author Affiliation: Dept. of Comput. Sci., California Univ., Berkeley, CA, USA

Conference Title: Proceeding. Fifth International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (Cat. No.97TB100096) p.184-95

Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA

Publication Date: 1997 Country of Publication: USA xii+249 pp.

ISBN: 0 8186 7758 9 Material Identity Number: XX97-00158

U.S. Copyright Clearance Center Code: 0 8186 7758 9/97/\$10.00

Conference Title: Proceedings Fifth International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems

Conference Sponsor: IEEE Comput. Soc.; IEEE Comput. Soc. Tech. Committee on Comput. Archit.; IEEE Comput. Soc. Tech. Committee on Simulation

Conference Date: 12-15 Jan. 1997 Conference Location: Haifa, Israel

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: We present the results of a variety of trace-driven simulations of disk **cache** designs using traces from a variety of mainframe timesharing and database systems in production use. We compute miss ratios, run lengths, traffic ratios, **cache** residency times, degree of **memory** pollution and other statistics for a variety of designs, varying lock size, prefetching algorithm and write algorithm. We find that for this workload, sequential prefetching produces a significant (about 20%) but still limited improvement in the miss ratio, even using a powerful technique for detecting sequentiality. Copy-back writing decreased write traffic relative to write-through by more than 50%; periodic flushing of the dirty blocks increased write traffic only slightly compared to pure write-back, and then only for large **cache** sizes. Write-allocate had little effect compared to no-write-allocate. Block sizes of over a track don't appear to be useful. Limiting **cache** occupancy by a single process or **transaction** appears to have little effect. This study is unique in the variety and quality of the data used in the studies. (20 Refs)

Subfile: C

Descriptors: **cache** storage ; magnetic disc storage ; performance evaluation; time-sharing systems; very large databases; **virtual machines**

Identifiers: disk caching; large database systems; time shared systems; trace-driven simulations; production use; miss ratios; run lengths; traffic ratios; **cache** residency times; **memory** pollution; lock size; sequential

prefetching; write algorithm; workload; copy-back writing; write traffic;  
write-through; periodic flushing; dirty blocks; **cache** occupancy  
Class Codes: C5310 (Storage system design); C7430 (Computer engineering  
); C5320C (Storage on moving magnetic media); C6120 (File organisation);  
C5470 (Performance evaluation and testing)  
Copyright 1997, IEE

23/5/26 (Item 17 from file: 2)  
DIALOG(R) File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5670404 INSPEC Abstract Number: C9710-6160B-003

Title: **Dynamic data reallocation for skew management in shared-nothing parallel databases**

Author(s): Helal, A.; Yuan, D.; El-Rewini, H.

Author Affiliation: Microelectron. & Comput. Technol. Corp., Austin, TX, USA

Journal: Distributed and Parallel Databases vol.5, no.3 p.271-88

Publisher: Kluwer Academic Publishers,

Publication Date: July 1997 Country of Publication: Netherlands

CODEN: DPADEH ISSN: 0926-8782

SICI: 0926-8782(199707)5:3L.271:DDRS;1-M

Material Identity Number: P900-97003

U.S. Copyright Clearance Center Code: 0926-8782/97/\$9.50

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: The shared nothing parallel database architecture is gaining wide popularity due to its scalability and increased data availability. However, in order to efficiently utilize parallelism in such architecture, independent data sets must be assigned to different processing nodes. This, of course, can initially be achieved by employing a careful partitioning scheme that allocates disjoint data sets to different processors. However, variations in the data access pattern may render some processors overloaded while others underloaded. This skewness in data access decreases the effective parallelism and eventually leads to overall performance degradation. A number of solutions have been proposed to periodically perform data re-allocation to remove the skewness in data access. Most of the proposed solutions perform either static re-allocation that requires the system to be taken off-line or dynamic, but non- **transactional** , re-allocation. The authors introduce a dynamic and **transactional** re-allocation scheme based on the work on disk cooling in shared **memory** architecture by Scheuermann et al. (1994). The proposed scheme enhances the effective parallelism in the system regardless of the variations in the pattern of access. The proposed scheme detects access skew as it occurs and re-allocates data partitions to underloaded processing elements on the fly. Only the block being moved becomes unavailable. In addition, mutual consistency among **transactions** concurrent to the re-allocation event is preserved. (17 Refs)

Subfile: C

Descriptors: concurrency control; database machines; distributed databases; parallel architectures; query processing; resource allocation; software performance evaluation; **transaction** processing; **virtual machines**

Identifiers: dynamic data reallocation; skew management; shared-nothing parallel databases; scalability; data availability; parallelism; independent data sets; processing nodes; partitioning scheme; disjoint data set allocation; data access pattern; **transactional** re-allocation scheme; disk cooling; shared **memory** architecture; underloaded processing elements ; mutual **transaction** consistency

Class Codes: C6160B (Distributed databases); C6130 (Data handling techniques); C5220P (Parallel architecture); C6150G (Diagnostic, testing, debugging and evaluating systems)

Copyright 1997, IEE

23/5/27 (Item 18 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5587408 INSPEC Abstract Number: C9707-6160-003

**Title: Real-time transaction processing system**

Author(s): Haque, W.; Wong, J.

Author Affiliation: Dept. of Math. & Comput. Sci., Univ. of Northern British Columbia, Prince George, BC, Canada

Journal: Microcomputer Applications vol.16, no.1 p.1-10

Publisher: ISMM,

Publication Date: 1997 Country of Publication: USA

CODEN: MIAPEZ ISSN: 0820-0750

SICI: 0820-0750(1997)16:1L:1:RTPP;1-I

Material Identity Number: F985-97003

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

**Abstract:** Real-time **transaction** processing requires an integrated approach in order to simultaneously meet deadlines and maintain consistency of a database. The underlying system configuration and real-time control parameters play an important role in the performance of algorithms used for scheduling **transactions** in a real-time environment. The authors have studied the effect of data partitioning, **buffer** management, preemption, shared locks, and I/O contention on the performance of a real-time database system. In addition, they present the effect of slack and use of multiple processors on performance. Selected simulation results are presented for various priority assignment schemes and concurrency control protocols. (10 Refs)

Subfile: C

**Descriptors:** **buffer storage**; concurrency control; database management systems; input-output programs; multiprocessing systems; processor scheduling; protocols; real-time systems; **storage** management; **transaction** processing; **virtual machines**

**Identifiers:** real-time **transaction** processing system; deadline meeting; consistency maintenance; database; system configuration; real-time control parameters; algorithm performance; scheduling **transactions**; data partitioning; **buffer** management; preemption; shared locks; I/O contention; slack effect; multiple processor effect; simulation; priority assignment schemes; concurrency control protocols

**Class Codes:** C6160 (Database management systems (DBMS)); C6130 (Data handling techniques); C6120 (File organisation); C5440 (Multiprocessing systems); C5640 (Protocols)

Copyright 1997, IEE

23/5/28 (Item 19 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5577874 INSPEC Abstract Number: C9706-6120-028

**Title: An effective full-map directory scheme for the sectored caches**

Author(s): Won-Kee Hong; Tack-Don Han; Shin-Dug Kim; Sung-Bong Yang

Author Affiliation: Dept. of Comput. Sci., Yonsei Univ., Seoul, South Korea

**Conference Title:** Proceedings. High Performance Computing on the Information Superhighway HPC Asia '97 (Cat. No.97TB100110) p.7-11

Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA

Publication Date: 1997 Country of Publication: USA xxii+760 pp.

ISBN: 0 8186 7901 8 Material Identity Number: XX97-01048

U.S. Copyright Clearance Center Code: 0 8186 7901 8/97/\$10.00

**Conference Title:** Proceedings High Performance Computing on the Information Superhighway. HPC Asia '97

**Conference Sponsor:** Supercomput. Center Syst. Eng. Res. Inst.; Parallel Process. Syst. SIG of Korea Inf. Sci. Soc

**Conference Date:** 28 April-2 May 1997 **Conference Location:** Seoul, South Korea

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: In multiprocessor systems, the **cache** misses due to coherence **transactions** make up many of the total **cache** misses. However this type of **cache** miss is strongly dependent on the type of data sharing among processors, especially false sharing. Until now the small **cache** block size has been used to avoid false sharing mainly in multiprocessor systems, but the smaller the **cache** block size, the lower the prefetching effect. Moreover it is shown that high spatial locality appears in many parallel programs. The paper presents two advanced full-map directory schemes which provide a low **cache** miss ratio and communication traffic by avoiding false sharing and taking advantage of the spatial locality existing in many parallel programs. The performance was evaluated by the event-driven simulator and the empirical results show that the proposed scheme can provide about a 6~77% decrease in the **cache** miss ratio and a 46~96% decrease in the communication traffic. (9 Refs)

Subfile: C

Descriptors: **cache** storage ; parallel programming; performance evaluation; shared **memory** systems; **virtual** machines  
Identifiers: sectored **caches** ; full-map directory scheme; multiprocessor systems; **cache** miss; coherence **transactions** ; data sharing; false sharing; **cache** block size; prefetching; spatial locality; parallel programs; low **cache** miss ratio; low communication traffic; event-driven simulator

Class Codes: C6120 (File organisation); C5320G (Semiconductor storage); C5440 (Multiprocessing systems); C5470 (Performance evaluation and testing); C6150N (Distributed systems software)

Copyright 1997, IEE

23/5/29 (Item 20 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5536325 INSPEC Abstract Number: C9705-6150N-026

Title: **ActiveX**

Author(s): North, K.

Journal: WEB Techniques vol.2, no.4 p.49-51

Publisher: Miller Freeman,

Publication Date: April 1997 Country of Publication: USA

CODEN: WETEFA ISSN: 1086-556X

SICI: 1086-556X(199704)2:4L:49:A;1-7

Material Identity Number: F184-97003

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: To provide the ability to scale up to larger numbers of users and support distributed applications, Microsoft has been working on NT's infrastructure. The changes improve security and add features such as asynchronous Remote Procedure Calls (RPCs), store-and-forward message queues, **transactions** , clusters, and a 64-bit **memory** model. Other enhancements include a management console, distributed services, a distributed file system, and directory services that provide a domain hierarchy. Microsoft's Active Platform for distributed computing includes ActiveX components, an Active Desktop, and Active Server. Microsoft's goal is to complete Active Server development in time for the release of Windows NT 5.0, but it will roll out individual pieces as they become available. Other Active Server pieces include Active Directory, ActiveX Data Objects (ADO), the Java **Virtual Machine** (VM), and Active Server Pages. Active Server Page is a tool for server-centric Web development that includes HTML documents that support embedded scripts, Java applets, and ActiveX components. (0 Refs)

Subfile: C

Descriptors: application program interfaces; distributed processing; Internet; network servers

Identifiers: ActiveX; Active Platform; distributed computing; distributed file system; directory services; Active Server; Active Server Page; Web development

Class Codes: C6150N (Distributed systems software); C5620W (Other computer networks)

23/5/30 (Item 21 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5429848 INSPEC Abstract Number: C9701-6150N-020

**Title: Hiding communication latency and coherence overhead in software DSMs**

Author(s): Bianchini, R.; Kontothanassis, L.I.; Pinto, R.; De Maria, N.; Abud, M.; Amorim, C.L.

Author Affiliation: COPPE Syst. Eng., Federal Univ. of Rio de Janeiro, Brazil

Journal: SIGPLAN Notices Conference Title: SIGPLAN Not. (USA) vol.31, no.9 p.198-209

Publisher: ACM,

Publication Date: Sept. 1996 Country of Publication: USA

CODEN: SINODQ ISSN: 0362-1340

SICI: 0362-1340(199609)31:9L:198:HCLC;1-8

Material Identity Number: S202-96009

U.S. Copyright Clearance Center Code: 0 89791 767 7/96/\$0010.\$3.50

Conference Title: 7th International Conference on Architectural Support for Programming Languages and Operating Systems

Conference Sponsor: ACM

Conference Date: 1-5 Oct. 1996 Conference Location: Cambridge, MA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P); Experimental (X)

Abstract: Proposes the use of a PCI-based programmable protocol controller for hiding communication and coherence overheads in software DSMs (distributed shared- **memory** systems). Our protocol controller provides three different types of overhead tolerance: (a) moving basic communication and coherence tasks away from computation processors; (b) prefetching of diffs; and (c) generating and applying diffs with hardware assistance. We evaluate the isolated and combined impact of these features on the performance of TreadMarks. We also compare performance against two versions of the Shrimp-based AURC protocol. Using detailed execution-driven simulations of a 16-node network of workstations, we show that the greatest performance benefits provided by our protocol controller come from our hardware-supported diffs. Reducing the burden of communication and coherence **transactions** on the computation processor is also beneficial but to a smaller extent. Prefetching is not always profitable. Our results show that our protocol controller can improve the run-time performance by up to 50% for TreadMarks, which means that it can double the TreadMarks speedups. The overlapping implementation of TreadMarks performs as well or better than AURC for five of our six applications. We conclude that the simple hardware support we propose allows for the implementation of high-performance software DSMs at low cost. Based on this conclusion, we are building the NCP/sub 2/ parallel system at COPPE/UFRJ. (25 Refs)

Subfile: C

Descriptors: coherence; distributed **memory** systems; **memory** protocols; shared **memory** systems; software performance evaluation; system buses; **virtual machines**

Identifiers: communication latency hiding; coherence overhead hiding; PCI-based programmable protocol controller; software distributed shared-**memory** systems; overhead tolerance; computation processors; diff prefetching; diff generation; hardware assistance; NCP/sub 2/ parallel system; TreadMarks; Shrimp-based AURC protocol; execution-driven simulations; 16-node workstation network; hardware-supported diffs; run-time performance

Class Codes: C6150N (Distributed systems software); C7430 (Computer engineering); C5640 (Protocols); C6120 (File organisation)

Copyright 1996, IEE

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5403646 INSPEC Abstract Number: C9612-6160K-004

**Title: Priority assignment in real-time active databases**

Author(s): Sivasankaran, R.M.; Stankovic, J.A.; Towsley, D.; Purimetla, B.; Ramamritham, K.

Author Affiliation: Dept. of Comput. Sci., Massachusetts Univ., Amherst, MA, USA

Journal: VLDB Journal vol.5, no.1 p.19-34

Publisher: Springer-Verlag,

Publication Date: Jan. 1996 Country of Publication: Germany

ISSN: 1066-8888

SICI: 1066-8888(199601)5:1L.19:PART;1-D

Material Identity Number: O851-96001

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Active databases and real-time databases have been important areas of research in the past. It has been recognized that many benefits can be gained by integrating real-time and active database technologies. However, not much work has been done in the area of **transaction** processing in real-time active databases. The paper deals with an important aspect of **transaction** processing in real-time active databases, namely the problem of assigning priorities to **transactions**. In these systems, time-constrained **transactions** trigger other **transactions** during their execution. We present three policies for assigning priorities to parent, immediate and deferred **transactions** executing on a multiprocessor system and then evaluate the policies through simulation. The policies use different amounts of semantic information about **transactions** to assign the priorities. The simulator has been validated against the results of earlier published studies. We conducted experiments in three settings: a task setting, a main **memory** database setting and a disk-resident database setting. Our results demonstrate that dynamically changing the priorities of **transactions**, depending on their behavior (triggering rules), yields a substantial improvement in the number of triggering **transactions** that meet their deadline in all three settings. (19 Refs)

Subfile: C

Descriptors: active databases; multiprocessing systems; real-time systems ; **transaction** processing; **virtual machines**

Identifiers: real-time active databases; priority assignment; **transaction** processing; time-constrained **transactions**; parent **transactions**; immediate **transactions**; deferred **transactions**; multiprocessor system; simulation; semantic information; task setting; main **memory** database setting; disk-resident database setting; dynamic priority changing; triggering rules; triggering **transactions**; deadline meeting

Class Codes: C6160K (Deductive databases); C6130 (Data handling techniques)

Copyright 1996, IEE

23/5/32 (Item 23 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5281037 INSPEC Abstract Number: C9607-6160-013

**Title: Simulation analysis of a real-time database buffer manager**

Author(s): Moniz, D.L.; Fortier, P.J.

Author Affiliation: US Naval Undersea Warfare Center, Newport, RI, USA

Conference Title: Proceedings of the 29th Annual Simulation Symposium (Cat. No.96TB100039) p.252-9

Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA

Publication Date: 1996 Country of Publication: USA xi+271 pp.

ISBN: 0 8186 7432.6 Material Identity Number: XX96-00850

U.S. Copyright Clearance Center Code: 1080-241X/96/\$5.00

Conference Title: Proceedings of the 29th Annual Simulation Symposium

Conference Sponsor: SCS; IEEE Comput. Soc

Conference Date: 8-11 April 1996 Conference Location: New Orleans, LA,

USA

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: Real-time database management systems research has not focused efforts on the specific low level systems support requirements for availability, timeliness and predictability of data access. An important aspect of such database system's support is the secondary access schemes and in particular database disk **buffer** allocation schemes. Timing constraints on critical and non-critical **transactions** in real-time database systems require that resource management strategies and algorithms give preferential treatment to critical **transactions**. The paper examines **buffer** management policies in a database system characterized by **transactions** which have execution deadlines and criticalities. A **buffer** allocation scheme and two **buffer** page replacement algorithms are described. A simulation model is used to examine real-time **buffer** allocation and page replacement algorithms versus a conventional baseline algorithm. The results of the simulation are presented and discussed. (20 Refs)

Subfile: C

Descriptors: **buffer** storage ; paged storage ; query processing; real-time systems; storage allocation; storage management; timing; transaction processing; virtual machines

Identifiers: real-time database **buffer** manager; simulation analysis; real-time database management systems; low level systems support requirements; data access availability; data access timeliness; data access predictability; secondary access schemes; database disk **buffer** allocation schemes; timing constraints; critical **transactions** ; noncritical **transactions** ; resource management strategies; resource management algorithms; execution deadlines; criticalities; **buffer** allocation scheme; simulation model; baseline algorithm; real-time **buffer** allocation algorithms; real-time **buffer** page replacement algorithms

Class Codes: C6160 (Database management systems (DBMS)); C6120 (File organisation); C6130 (Data handling techniques)

Copyright 1996, IEE

23/5/33 (Item 24 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5278744 INSPEC Abstract Number: C9607-6160B-017

Title: On coupling multiple systems with a global **buffer**

Author(s): Ming-Syan Chen; Yu, P.S.; Tao-Heng Yang

Author Affiliation: IBM Thomas J. Watson Res. Center, Yorktown Heights, NY, USA

Journal: IEEE Transactions on Knowledge and Data Engineering vol.8, no.2 p.339-44

Publisher: IEEE,

Publication Date: April 1996 Country of Publication: USA

ISSN: 1041-4347

SICI: 1041-4347(199604)8:2L:339:CMSW;1-Z

Material Identity Number: N571-96003

U.S. Copyright Clearance Center Code: 1041-4347/96/\$05.00

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: We conduct a performance study of coupling multiple systems with a global **buffer**, and present several results obtained from a multiple-system simulator. This simulator has been run against three workloads, and the coupled system behavior with these three different inputs is studied. Several statistics, including those on local and global **buffer** hits, page writes to the global **buffer**, cross-invalidations, and castouts are reported. Their relationship to the degree of data skew is explored. Moreover, in addition to the update-caching approach, a design alternative for the use of a global **buffer**, namely read-caching, is explored. In read-caching, not only updated pages but also pages read by each node are kept in the global **buffer**, thereby facilitating other nodes access to the same pages at the cost of a higher global **buffer** usage.



Also investigated is the case of no-caching, i.e., without using a global **buffer**. Several simulation results are presented and analyzed. (10 Refs)

Subfile: C

Descriptors: **buffer storage**; **cache storage**; distributed databases; software performance evaluation; **transaction processing**; **virtual machines**

Identifiers: multiple systems coupling; global **buffer**; performance study; multiple-system simulator; workloads; coupled system behavior; statistics; global **buffer** hits; local **buffer** hits; page writes; cross-invalidations; castouts; data skew; update-caching; design; read-caching; nodes access; cost; no-caching; simulation; data sharing; database **transaction processing**

Class Codes: C6160B (Distributed databases); C6120 (File organisation); C6130 (Data handling techniques)

Copyright 1996, IEE

23/5/34 (Item 25 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5220071 INSPEC Abstract Number: C9605-6160Z-004

Title: **Integrating temporal, real-time, and active databases**

Author(s): Ramamritham, K.; Sivasankaran, R.; Stankovic, J.A.; Towsley, D.T.; Ming Xiong

Author Affiliation: Dept. of Comput. Sci., Massachusetts Univ., Amherst, MA, USA

Journal: SIGMOD Record vol.25, no.1 p.8-12

Publisher: ACM,

Publication Date: March 1996 Country of Publication: USA

CODEN: SRECD8 ISSN: 0163-5808

SICI: 0163-5808(199603)25:1L.8:ITRT;1-H

Material Identity Number: A660-96001

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: To meet the needs of many real-world control applications, concepts from temporal, real-time and active databases must be integrated. Since the system's data is supposed to reflect the environment being controlled, they must be updated frequently to maintain temporal validity. Many activities, including those that perform the updates, work under time constraints. The occurrence of events (e.g. emergency events) trigger actions. In these systems, meeting timeliness, predictability and quality-of-service (QoS) guarantee requirements (through appropriate resource and overload management) become very important, so algorithms and protocols for concurrency control, recovery and scheduling are needed. These algorithms must exploit the semantics of the data and the **transactions** to be responsive and efficient. Whereas time-cognizant scheduling, concurrency control and conflict resolution have been studied in the literature, recovery issues have not. We have developed strategies for data placement at the appropriate level of **memory** hierarchy, for avoiding undoing/redoin by exploiting data/ **transaction** characteristics, and for placing logs at the appropriate level in the **memory** hierarchy. Another issue that we have studied deals with the assignment of priority to **transactions** in active real-time database systems. We are also studying concurrency control for temporal and multimedia data. We have built RADEx, a simulation environment to evaluate our solutions. (13 Refs)

Subfile: C

Descriptors: active databases; concurrency control; **memory** protocols; multimedia computing; real-time systems; scheduling; system recovery; temporal databases; **transaction processing**; **virtual machines**

Identifiers: temporal databases; multimedia data; real-time databases; RADEx simulation environment; active databases; real-world control applications; frequent updating; temporal validity; time constraints; action-triggering events; timeliness guarantees; predictability guarantees; service quality guarantees; resource management; overload management; concurrency control; system recovery; scheduling; data semantics; **transaction** semantics; conflict resolution; data placement; **memory**

hierarchy; data logs; **transaction** priority assignment  
Class Codes: C6160Z (Other DBMS)  
Copyright 1996, IEE

23/5/35 (Item 26 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5212173 INSPEC Abstract Number: C9604-5470-037

**Title:** Transaction processing workloads-a comparison to the SPEC benchmarks using memory hierarchy performance studies

**Author(s):** Thompson, G.D.; Nelson, B.E.; Flanagan, J.K.

**Author Affiliation:** Intel Corp., Santa Clara, CA, USA

**Conference Title:** MASCOTS '96. Proceedings of the Fourth International Workshop on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (Cat. No.96TB100024) p.152-6

**Publisher:** IEEE Comput. Soc. Press, Los Alamitos, CA, USA

**Publication Date:** 1996 **Country of Publication:** USA xiii+297 pp.

**ISBN:** 0 8186 7235 8 **Material Identity Number:** XX95-03144

**U.S. Copyright Clearance Center Code:** 0 8186 7235 8/96/\$5.00

**Conference Title:** Proceedings of MASCOTS '96 - 4th International Workshop on Modeling, Analysis and Simulation of Computer and Telecommunication Systems

**Conference Sponsor:** IEEE Comput. Soc. and its Tech. Committees on Comput. Archit. & Simulation

**Conference Date:** 1-3 Feb. 1996 **Conference Location:** San Jose, CA, USA

**Language:** English **Document Type:** Conference Paper (PA)

**Treatment:** Practical (P)

**Abstract:** The study analyzes the **memory** hierarchy performance of three SPEC benchmarks and two TPC benchmarks. It finds large differences between the benchmarks in instruction **cache** miss rates and smaller differences in data **cache** miss rates. It then breaks all of the miss rates down in their components: context switch misses, user misses, supervisor misses, and collision misses. It demonstrates that context switches contribute little to the miss rates as do collision misses. Finally, using temporal locality graphs, it shows that the inherent locality differences between the reference streams is the main cause of miss rate differences between the various benchmarks. (11 Refs)

**Subfile:** C

**Descriptors:** **cache** **storage** ; graph theory; **memory** architecture; performance evaluation; **transaction** processing; **virtual machines**

**Identifiers:** **transaction** processing workloads; SPEC benchmarks; **memory** hierarchy performance studies; TPC benchmarks; instruction **cache** miss rates; data **cache** miss rates; context switch masses; user misses; supervisor misses; collision misses; temporal locality graphs; inherent locality differences; reference streams; miss rate differences

**Class Codes:** C5470 (Performance evaluation and testing); C5320G (Semiconductor storage); C1160 (Combinatorial mathematics); C6130 (Data handling techniques); C6120 (File organisation); C5310 (Storage system design)

Copyright 1996, IEE

23/5/36 (Item 27 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5093940 INSPEC Abstract Number: C9512-6160-009

**Title:** An efficient transient versioning method

**Author(s):** Gukal, S.; Omiecinski, E.; Ramachandran, U.

**Author Affiliation:** Coll. of Comput., Georgia Inst. of Technol., Atlanta, GA, USA

**Conference Title:** Advances in Databases. 13th British National Conference on Databases, BNDOC Proceedings p.155-71

**Editor(s):** Goble, C.; Keane, J.

**Publisher:** Springer-Verlag, Berlin, Germany

Publication Date: 1995 Country of Publication: West Germany 276 pp.  
ISBN: 3 540 60100 7

Conference Title: Advances in Databases. 13th British National Conference on Databases. BNCOD 13

Conference Date: 12-14 July 1995 Conference Location: Manchester, UK

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Transient versioning methods, where prior versions are maintained temporarily, are proposed to execute long-running queries without affecting concurrent **transactions**. However, **transactions** in these methods do not exploit the prior versions. This paper presents a transient-versioning method, called 'dynamic versioning', which uses the transient versions not only to support queries but also to increase concurrency among **transactions**. Data conflicts due to incompatible requests are resolved by dynamically creating dependence orders among the requesting **transactions** and queries. These orders help precisely identify the prior versions that have to be kept for the queries. Since only the required versions are stored, the **storage** overhead for the transient versions is reduced to the minimum possible. We present the results of simulation experiments that show that our method provides high **transaction** concurrency and supports queries almost as efficiently as the other transient versioning methods, while incurring only a fraction of the **storage** overhead. (16 Refs)

Subfile: C

Descriptors: concurrency control; configuration management; query processing; **transaction** processing; **virtual machines**

Identifiers: transient versioning method; temporarily maintained prior versions; long-running queries; concurrent **transactions**; dynamic versioning; data conflicts; incompatible requests; dynamic dependence order creation; **storage** overhead; simulation; **transaction** concurrency

Class Codes: C6160 (Database management systems (DBMS)); C6110B (Software engineering techniques); C4250 (Database theory); C7430 (Computer engineering)

Copyright 1995, IEE

23/5/37 (Item 28 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5086780 INSPEC Abstract Number: C9512-6150N-009

Title: **Efficient strategies for software-only directory protocols in shared-memory multiprocessors**

Author(s): Grahn, H.; Stenstrom, P.

Author Affiliation: Dept. of Comput. Eng., Lund Univ., Sweden

Conference Title: Proceedings 22nd Annual International Symposium on Computer Architecture (IEEE Cat. No.95CB35801) p.38-47

Publisher: ACM, New York, NY, USA

Publication Date: 1995 Country of Publication: USA xiii+426 pp.

ISBN: 0 89791 698 0

U.S. Copyright Clearance Center Code: 0 89791 698 0/95/0006.\$3.50

Conference Title: Proceedings 22nd Annual International Symposium on Computer Architecture

Conference Sponsor: ACM SIGARCH; IEEE Comput. Soc., TCCA; Univ. Genoa

Conference Date: 22-24 June 1995 Conference Location: Santa Margherita Ligure, Italy

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The cost, complexity, and inflexibility of hardware-based directory protocols motivate us to study the performance implications of protocols that emulate directory management using software handlers executed on the compute processors. An important performance limitation of such software-only protocols is that software latency associated with directory management ends up on the critical **memory** access path for read miss **transactions**. We propose five strategies that support efficient data transfers in hardware whereas directory management is handled at a slower pace in the background by software handlers. Simulations show that this

approach can remove the directory-management latency from the **memory** access path. Whereas the directory is managed in software, the hardware mechanisms must access the **memory** state in order to enable data transfers at a high speed. Overall, our strategies reach between 60% and 86% of the hardware-based protocol performance. (18 Refs)

Subfile: C

Descriptors: **cache storage** ; parallel architectures; protocols; shared **memory** systems; simulation; software performance evaluation; **virtual machines**

Identifiers: software-only directory protocols; shared- **memory** multiprocessors; performance implications; directory management emulation; software handlers; compute processors; performance limitation; software latency; critical **memory** access path; read miss **transactions** ; data transfers; simulations; hardware-based directory protocols

Class Codes: C6150N (Distributed systems software); C5640 (Protocols); C6120 (File organisation)

Copyright 1995, IEE

23/5/38 (Item 29 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5057122 INSPEC Abstract Number: C9511-5470-004

Title: **MPTG: a portable test generator for cache -coherent multiprocessors**

Author(s): O'Krafka, B.; Mandyam, S.; Kreulen, J.; Raghavan, R.; Saha, A.; Malik, N.

Author Affiliation: IBM Corp., Austin, TX, USA

Conference Title: Conference Proceedings of the 1995 IEEE Fourteenth Annual International Phoenix Conference on Computers and Communications (Cat. No.95CH35751) p.38-44

Publisher: IEEE, New York, NY, USA

Publication Date: 1995 Country of Publication: USA xvii+742 pp.

ISBN: 0 7803 2492 7

U.S. Copyright Clearance Center Code: 0 7803 2492 7/95/\$4.00

Conference Title: Proceedings International Phoenix Conference on Computers and Communications

Conference Date: 28-31 March 1995 Conference Location: Scottsdale, AZ, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: **Cache** -coherent multiprocessors are typically verified by extensive simulation with randomly generated testcases. With this methodology, certain aspects of test coverage can be measured using monitors that record the occurrence of specific events during simulation. If certain events do not occur sufficiently often, the designer must somehow bias the random test generator or write hand-written testcases to improve coverage of the desired event. This is usually a labor-intensive process that is made worse by frequent changes in design specifications and the high cost of simulating large multiprocessor models. This paper describes MPTG (MultiProcessor Test Generator): a portable test generator that automates much of this labor-intensive component of the simulation process. MPTG does this by deterministically generating sets of testcases that are guaranteed to cause specific events to happen. For example, with a single, compact test specification it is possible to generate a set of tests that exercise all **transaction** types and current **cache** state combinations at a particular **cache** in the system. Alternatively, it is easy to generate a set of tests that exercise all two-way races that can occur at a particular **cache** . Test generation at this level of detail requires the incorporation of a system-wide coherence protocol within the test generator, which can make it difficult to port the test generator to different systems. Portability is achieved in MPTG by breaking the test generator into two parts: a generic test generation engine and a system-specific set of protocol tables. (8 Refs)

Subfile: C

Descriptors: computer testing; formal specification; formal verification;

multiprocessing systems; performance evaluation; **virtual machines**  
Identifiers: portable test generator; **cache** -coherent multiprocessors;  
extensive simulation; test coverage; random test generator; hand-written  
testcases; design specifications; MultiProcessor Test Generator; MPTG;  
system-wide coherence protocol; portability  
Class Codes: C5470 (Performance evaluation and testing); C7430 (Computer engineering); C6150G (Diagnostic, testing, debugging and evaluating systems); C6110F (Formal methods)  
Copyright 1995, IEE

23/5/39 (Item 30 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5044550 INSPEC Abstract Number: C9510-6150J-011  
**Title: Dynamic load balancing of atomic structure programs on a PVM cluster**  
Author(s): Stathopoulos, A.; Ynnerman, A.  
Author Affiliation: Dept. of Comput. Sci., Vanderbilt Univ., Nashville, TN, USA  
Conference Title: High-Performance Computing and Networking. International Conference and Exhibition. Proceedings p.384-91  
Editor(s): Hertzberger, B.; Serazzi, G.  
Publisher: Springer-Verlag, Berlin, Germany  
Publication Date: 1995 Country of Publication: West Germany xxiv+957 pp.  
ISBN: 3 540 59393 4  
Conference Title: Proceedings of International Conference on High-Performance Computing and Networking. HPCN '95  
Conference Date: 3-5 May 1995 Conference Location: Milan, Italy  
Language: English Document Type: Conference Paper (PA)  
Treatment: Applications (A); Practical (P)  
Abstract: The MCHF package is a suite of programs that enable the calculation of **atomic data** required by many science and engineering disciplines. As a means of meeting its high computational demands, the package has previously been implemented in PVM. The codes have been used on a dedicated cluster of workstations with a static load balancing scheme. However, the cluster needs to be shared with other users, and different architecture workstations need to be embedded. In this paper, modifications of two well-known dynamic load balancing schemes are implemented and tested. The resulting codes exhibit perfect load balancing for a variety of system loads, facilitating the solution of large problems and the efficient utilization of current resources. (13 Refs)  
Subfile: C  
Descriptors: parallel processing; performance evaluation; resource allocation  
Identifiers: dynamic load balancing; atomic structure programs; PVM cluster; MCHF package; **atomic data**; dedicated cluster of workstations; perfect load balancing; parallel **virtual machine**  
Class Codes: C6150J (Operating systems); C5440 (Multiprocessing systems); C5470 (Performance evaluation and testing)  
Copyright 1995, IEE

23/5/40 (Item 31 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

4940272 INSPEC Abstract Number: C9506-6160-002  
**Title: Simulation analysis of early commit concurrency control protocols**  
Author(s): Fortier, P.J.; Sieg, J.C., Jr.  
Author Affiliation: Dept. of Electr. & Comput. Eng., Massachusetts Univ., Dartmouth, MA, USA  
p.322-31  
Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA  
Publication Date: 1995 Country of Publication: USA xii+351 pp.

ISBN: 0 8186 7091 6

U.S. Copyright Clearance Center Code: 1080-241X/95/\$4.00

Conference Title: Proceedings of Simulation Symposium

Conference Sponsor: SCS; IEEE Comput. Soc.; ACM

Conference Date: 9-13 April 1995 Conference Location: Phoenix, AZ, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: This paper describes results of a simulation model for decomposition of concurrency control enforcement in databases. The database is partitioned into **atomic data** sets using constraints defined during database design. For each **atomic data** set A, the transaction writer declares a point in his transaction after which there will be no more accesses to A. This location is a candidate for early commitment. We present three new concurrency control protocols: early-commit versions of conventional locking, timestamp ordering, and optimistic protocols, and two new recovery protocols: merged-commit and replay. A simulation model used to model these protocols is described. The new protocols performance is compared to that of their conventional counterparts using the described simulator. (26 Refs)

Subfile: C

Descriptors: concurrency control; database management systems; protocols; system recovery; transaction processing; **virtual machines**

Identifiers: simulation analysis; early commit concurrency control protocols; simulation model; concurrency control enforcement; databases; **atomic data** sets; database design; transaction writer; conventional locking; timestamp ordering; optimistic protocols; recovery protocols; merged-commit; replay; protocols performance

Class Codes: C6160 (Database management systems (DBMS)); C6150N (Distributed systems software); C7430 (Computer engineering)

Copyright 1995, IEE

23/5/41 (Item 32 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

4940250 INSPEC Abstract Number: C9506-6150N-044

Title: **Algorithms for categorizing multiprocessor communication under invalidate and update-based coherence protocols**

Author(s): Bianchini, R.; Kontothanassis, L.

Author Affiliation: Dept. of Comput. Sci., Rochester Univ., NY, USA  
p.115-24

Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA

Publication Date: 1995 Country of Publication: USA xii+351 pp.

ISBN: 0 8186 7091 6

U.S. Copyright Clearance Center Code: 1080-241X/95/\$4.00

Conference Title: Proceedings of Simulation Symposium

Conference Sponsor: SCS; IEEE Comput. Soc.; ACM

Conference Date: 9-13 April 1995 Conference Location: Phoenix, AZ, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Presents simulation algorithms that characterize the main sources of communication generated by parallel applications under both invalidate and update-based **cache** coherence protocols. The algorithms provide insight into the reference and sharing patterns of parallel programs and into the amount of useless traffic entailed by each coherence protocol. Under an invalidate-based protocol, our algorithms classify the data traffic caused by the different types of **cache** misses. Under an update-based protocol, our algorithms not only categorize the data traffic, but also classify update **transactions** with respect to the sharing patterns that caused them. Although our algorithms deal with numerous hardware features, our categorization is widely applicable and can be easily simplified for use in less detailed simulators. (9 Refs)

Subfile: C

Descriptors: **cache storage**; coherence; **memory** protocols; parallel programming; shared **memory** systems; telecommunication traffic; transaction processing; **virtual machines**

Identifiers: shared- **memory** multiprocessor communication; simulation algorithms; parallel programs; invalidate-based **cache** coherence protocols ; update-based **cache** coherence protocols; reference patterns; sharing patterns; useless data traffic; **cache** misses; data traffic categorization ; update **transactions**

Class Codes: C6150N (Distributed systems software); C5640 (Protocols); C5220P (Parallel architecture); C7430 (Computer engineering); C4240P (Parallel programming and algorithm theory); C6110P (Parallel programming); C4230M (Multiprocessor interconnection)

Copyright 1995, IEE

23/5/42 (Item 33 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

4881261 INSPEC Abstract Number: C9503-5440-055

**Title: High performance transaction systems on the SB-PRAM**

Author(s): Gemund, C.; Jakob, M.; Massonne, W.; Paul, W.J.; Spengler, B.

Author Affiliation: Dept. of Comput. Sci., Saarlandes Univ., Saarbrücken, Germany

Conference Title: Proceedings Third Israel Symposium on the Theory of Computing and Systems p.1-10

Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA

Publication Date: 1995 Country of Publication: USA ix+279 pp.

ISBN: 0 8186 6915 2

U.S. Copyright Clearance Center Code: 0 8186 6915 2/95/\$04.00

Conference Title: Proceedings Third Israel Symposium on the Theory of Computing and Systems

Conference Sponsor: Found. Promotion of Educ. Electron. & Comput. Sci. Technol.; Scitex; Algorithmic Res.; Hebrew Univ.; Technion - Israel Inst. Technol.; Tel Aviv Univ.; Weizmann Inst. Sci.; ACM SIGACT

Conference Date: 4-6 Jan. 1995 Conference Location: Tel Aviv, Israel

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The SB-PRAM is a shared **memory** parallel machine under construction in Saarbrücken. With the help of simulations we have evaluated the performance of **transaction** systems on this machine. We use the well known, DEBIT/CREDIT benchmark as workload. According to the simulations the machine reaches 6000 **transactions** per second with, 256 data disks, 32 log disks and 128 processors, although each processor has only 8 MIPS. With a partial run time analysis we support this surprisingly high **transaction** rate. (33 Refs)

Subfile: C

Descriptors: database machines; parallel machines; performance evaluation ; shared **memory** systems; **transaction** processing; **virtual machines**

Identifiers: SB-PRAM; shared **memory** parallel machine; DEBIT/CREDIT benchmark; partial run time analysis; **transaction** rate

Class Codes: C5440 (Multiprocessing systems); C5470 (Performance evaluation and testing)

Copyright 1995, IEE

23/5/43 (Item 34 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

4435407 INSPEC Abstract Number: C9308-6150J-016

**Title: Design considerations of a parallel recovery scheme for the EDS data base server**

Author(s): Kam-Fai Wong

Author Affiliation: ECRC, Munich, Germany

Journal: Journal of Systems and Software vol.21, no.1 p.41-8

Publication Date: April 1993 Country of Publication: USA

CODEN: JSSODM ISSN: 0164-1212

U.S. Copyright Clearance Center Code: 0164-1212/93/\$6.00

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: The European Declarative System (EDS) is an integrated hardware and software platform for developing advanced information processing systems. The underlying EDS machine is a parallel main **memory** computer with a shared-nothing architecture. A major goal of the EDS project is to produce a high-performance database server which can efficiently handle a wide spectrum of applications ranging from simple online **transaction** processing to complex decision support system. The EDS database server will be extensively used for commercial applications. For such applications, it is essential that the EDS server be highly reliable and must be able to recover from different kinds of failures. Existing recovery techniques are mainly designed for conventional architectures and are unsuitable for the parallel main **memory** architecture of the EDS system. In this article, a parallel cooperative recovery scheme for the EDS system is proposed. The advantages of the scheme are that it minimizes interconnection network bottlenecks, it reduces disc I/O overheads, it is inexpensive to implement, it requires no modifications to the existing EDS architecture, and it can use the full processing power of the EDS machine. (13 Refs)

Subfile: C

Descriptors: database management systems; multiprocessing programs; operating systems (computers); reliability; system recovery; **virtual machines**

Identifiers: system reliability; fault tolerance; European Declarative System; advanced information processing systems; parallel main **memory** computer; shared-nothing architecture; high-performance database server; online **transaction** processing; decision support system; parallel cooperative recovery scheme; interconnection network

Class Codes: C6150J (Operating systems); C6150G (Diagnostic, testing, debugging and evaluating systems); C6160 (Database management systems (DBMS))

23/5/44 (Item 35 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

03967697 INSPEC Abstract Number: C91058184

Title: **Evaluation of Futurebus hierarchical caching**

Author(s): Langendoen, K.G.; Muller, H.L.; Hertzberger, L.O.

Author Affiliation: Amsterdam Univ., Netherlands

Conference Title: PARLE '91. Parallel Architectures and Languages Europe. Volume I: Parallel Architectures and Algorithms p.52-68

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1991 Country of Publication: West Germany xv+422 pp.

ISBN: 3 540 54151 9

Conference Date: 10-13 June 1991 Conference Location: Eindhoven, Netherlands

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: This paper presents a simulation model for hierarchically structured multiprocessors based on the Futurebus+. The model simulates the behaviour of the buses and **caches** at the level of individual **memory** references. These **memory** references are generated by a set of 'stochastic processes' which are based on measured statistics of actual programs. The model is validated with published trace driven simulations of single and two level **cache** systems. The authors have used the model in some experiments to study the performance effects of **cache** parameters in various multilevel **cache** hierarchies. They conclude that a two level hierarchy of **caches** is attractive for those applications that cause a lot of bus traffic. The parallel application of their benchmark, which heavily uses shared data, showed a performance increase of 44% when a flat bus was replaced by a two-level hierarchy. Finally they observed that 99% of the total of bus **transactions** in all simulations used only 5% of the Futurebus+ **cache** -coherency protocol. They conclude that many of the optimizations in the protocol only increase complexity without a clear performance benefit. (10 Refs)



Subfile: C

Descriptors: **buffer storage** ; parallel architectures; performance evaluation; **storage** management; **virtual machines**

Identifiers: Futurebus hierarchical caching; hierarchically structured multiprocessors; Futurebus+; stochastic processes; trace driven simulations ; multilevel **cache** hierarchies; bus traffic; bus **transactions** ;

Futurebus+ **cache** -coherency protocol; optimizations; performance benefit

Class Codes: C5440 (Multiprocessor systems and techniques); C5220 (Computer architecture); C6150J (Operating systems); C5470 (Performance evaluation and testing); C7430 (Computer engineering)

23/5/45 (Item 36 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

03470994 INSPEC Abstract Number: C89062754

**Title: A shared, persistent object store**

Author(s): Low, C.

Author Affiliation: Dept. of Comput. Sci., Queen Mary Coll., London, UK

Conference Title: ECOOP '88 European Conference on Object-Oriented Programming. Proceedings p.390-410

Editor(s): Gjessing, S.; Nygaard, K.

Publisher: Springer-Verlag, Berlin, West Germany

Publication Date: 1988 Country of Publication: West Germany vi+410

pp.

ISBN: 3 540 50053 7

Conference Date: 15-17 Aug. 1988 Conference Location: Oslo, Norway

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Smalltalk-80 is presented as a useful testbed for prototyping applications involving shared, persistent objects, and a detailed design of a shared persistent object store is discussed. The store is a set of named containers for object state, and it provides low-cost **atomic transactions** using an optimistic synchronisation technique. The standard Smalltalk-80 **virtual machine** is modified to support a new object class, the Transaction, and an example of a Smalltalk program using nested sub-transactions is given. Immutability of object state is identified both as an important property of objects, and a basis for producing an efficient implementation within a distributed system environment. (26 Refs)

Subfile: C

Descriptors: distributed processing; object-oriented programming; Smalltalk; transaction processing

Identifiers: immutable object state; object oriented programming; shared persistent object store; named containers; low-cost **atomic transactions** ; optimistic synchronisation technique; Smalltalk-80 **virtual machine** ; object class; Transaction; nested sub-transactions; distributed system environment

Class Codes: C6160Z (Other DBMS); C6110 (Systems analysis and programming)

23/5/46 (Item 37 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

03305973 INSPEC Abstract Number: C89013794

**Title: Performance comparison of two multiprocessor B-link tree implementations**

Author(s): Mukkamala, R.; Shultz, R.K.

Author Affiliation: Dept. of Comput. Sci., Old Dominion Univ., Norfolk, VA, USA

Conference Title: Proceedings of the 1988 International Conference on Parallel Processing p.182-6 vol.1

Editor(s): Briggs, F.A.

Publisher: Pennsylvania State Univ, University Park, PA, USA

Publication Date: 1988 Country of Publication: USA 3 vol.

(xii+461+x+262+xiii+311) pp.

ISBN: 0 271 00654 4

Conference Sponsor: Pennsylvania State Univ

Conference Date: 15-19 Aug. 1988      Conference Location: University Park,  
PA, USA

Availability: Penn State Press, University Park, PA, USA

Language: English      Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The interaction of concurrent database algorithms with the underlying multiprocessor computer architectures is investigated. An optimistic concurrent B-link tree access is implemented on two simulated multiple processor computer architectures: a shared secondary **storage** system, and a processor-per-secondary **storage** system. It has been observed that the average degree of concurrency and the **transaction** throughput of the processor-per-secondary **storage** system are much greater than those of the shared secondary **storage** system. (9 Refs)

Subfile: C

Descriptors: computer architecture; digital **storage** ; multiprocessor interconnection networks; performance evaluation; trees (mathematics);

**virtual machines**

Identifiers: simulated architectures; performance comparison; multiprocessor B-link tree implementations; concurrent database algorithms; multiprocessor computer architectures; optimistic concurrent B-link tree access; shared secondary **storage** system; processor-per-secondary **storage** system; **transaction** throughput

Class Codes: C5470 (Performance evaluation and testing); C5440 (Multiprocessor systems and techniques); C5220 (Computer architecture); C5320 (Digital storage); C4230B (Combinatorial switching theory)

23/5/47      (Item 38 from file: 2)

DIALOG(R) File    2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

01334559    INSPEC Abstract Number: C79013273

Title: An analytic model of the VM/370 system

Author(s): Bard, Y.

Author Affiliation: Cambridge Sci. Center, IBM, Cambridge, MA, USA

Journal: IBM Journal of Research and Development    vol.22, no.5    p.  
498-508

Publication Date: Sept. 1978    Country of Publication: USA

CODEN: IBMJAE    ISSN: 0018-8646

Language: English      Document Type: Journal Paper (JP)

Treatment: Applications (A)

Abstract: Describes an analytic model of an interactive multiprogrammed computer system. The model accepts a multiple-user-class, **transaction**-oriented workload description and a system configuration description, and it produces predictions of resource utilizations, **transaction** rates, and average **transaction** response times. The solution method involves nearly complete decomposition, with a closed queuing network representing the multiprogrammed set. Asymptotic formulas are used to generate good initial guesses for an overall iterative scheme. Extensive validation results are presented. (17 Refs)

Subfile: C

Descriptors: computer selection and evaluation; interactive systems; multiprogramming; virtual **storage**

Identifiers: VM/370; analytic model; interactive multiprogrammed computer system; resource utilizations; **transaction** rates; average **transaction** response times; closed queuing network; iterative scheme; validation; multiprogrammed set model; **virtual machines** ; computer performance prediction

Class Codes: C6150J (Operating systems)

23/5/48      (Item 39 from file: 2)

DIALOG(R) File    2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

00987130 INSPEC Abstract Number: C76030514

**Title:** Transaction processing on the ICL 2900 series

**Author(s):** Patel, M.

**Author Affiliation:** ICL, Kidsgrove, UK

**Book Title:** Real-time software: international state of the art report p. 559-71

**Editor(s):** Spencer, J.P.

**Publisher:** Infotech Internat, Maidenhead, Berks., UK

**Publication Date:** 1976 **Country of Publication:** UK ix+880 pp.

**Language:** English **Document Type:** Book Chapter (BC)

**Treatment:** Practical (P)

**Abstract:** ICL 2900 systems are based on the exploitation of **virtual machines** (VMs). A **virtual machine** is an environment in which application programs can be executed. **Virtual machines** are mapped on to virtual store, although virtual store is only one element supporting the **virtual machine** environment: files that can be accessed as a set of records are another element. It is important to clarify at the outset the use of the term concurrency in describing the control of throughput in a **virtual machine** environment. Concurrency in the 2900 system means the number of VMs that are concurrent in main store at any instant in time. The author describes two kinds of concurrency, concurrency in main store and concurrency in virtual store. (0 Refs)

**Subfile:** C

**Descriptors:** operating systems (computers); real-time systems; **virtual machines** ; virtual storage

**Identifiers:** ICL 2900; **virtual machine** ; concurrency; main store; virtual store; **transaction** processing; multi access operations; batch operations; file recovery

**Class Codes:** C5400 (Analogue and digital computers and systems); C6120 (File organisation); C6150J (Operating systems); C7430 (Computer engineering)

23/5/49 (Item 1 from file: 233)

DIALOG(R)File 233:Internet & Personal Comp. Abs.

(c) 2003 EBSCO Pub. All rts. reserv.

00501886 98PK07-302

**TP monitors are heading for the Web**

Gonsalves, Antone

PC WEEK , July 27, 1998 , v15 n30 p1, 14, 2 Page(s)

ISSN: 0740-1604

**Languages:** English

**Document Type:** Articles, News & Columns

**Geographic Location:** United States

Reports on the efforts of major software developers to make their distributed application servers capable of supporting **transaction** processing (TP) functions. Says IBM is readying an Enterprise JavaBeans (EJB) server for shipment that will serve as a **transaction** manager within the company's WebSphere Application Server environment. Adds that BEA Systems Inc. will soon offer a **Java** development and deployment **environment** for client/server and database connectivity. Notes that Inprise Corp. is already shipping a TP product in its VisiBroker Integrated **Transaction** Server, a says VisiBroker ITS will be an integral part of the company's enterprise application server, which will support both CORBA ORB Architecture) and EJB. Adds that marketplace needs include an object **repository** , a TP monitor, clustering support, and an open architecture for different languages, tools, and platforms. (JC)

**Descriptors:** Online **Transaction** Processing; Web Tools; Application Development; Server

23/5/50 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.

01275152 JICST ACCESSION NUMBER: 91A0644909 FILE SEGMENT: JICST-E

**Development of DIPS-11/5EX Series Computers.**

SHIOKAWA SHIZUO (1); OBASHI YOSHITSUGU (1); UOZUMI EIICHI (1)

(1) NTTJohotsushinmouken

NTT R D, 1991, VOL.40,NO.7, PAGE.975-984, FIG.6, TBL.2, REF.8

JOURNAL NUMBER: F0137ACY ISSN NO: 0915-2326

UNIVERSAL DECIMAL CLASSIFICATION: 681.32 621.395.49

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

**ABSTRACT:** The DIPS-11/5EX series mainframes are large-scale computers developed for NTT's data communication systems. These computers achieve high performance using extended **memory**, expand the allowable distance between processors and peripheral equipment to up to 2km using optical cables, and enhance the **virtual machine** which offers almost the same performance as a bare machine. They provide the basis for establishing powerful, high-availability, flexible computer systems. This paper describes their design concept, machine structures and functional improvements. (author abst.)

**DESCRIPTORS:** communication network; practical application; distributed processing; computer architecture; LSI; high density packaging; semiconductor **memory**; **virtual machine** system; **transaction** processing; data communication; optical fiber cable

**BROADER DESCRIPTORS:** information network; network; modification; treatment; computer system(architecture); method; integrated circuit; micro circuit; packaging(mounting); **memory** (computer); equipment; computer system(hardware); system; telecommunication; cable

**CLASSIFICATION CODE(S):** JC020100; ND11040A

23/5/51 (Item 1 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

(c) 2004 FIZ TECHNIK. All rts. reserv.

01084147 E97032773235

**picoJava I fuer Embedded Applikationen**

(picoJava 1: Java type RISC-like microprocessor architecture usable for embedded network computing)

anonym

Sun Microelectronics

Elektronik Industrie, v28, n3, pp32-35, 1997

Document type: journal article Language: German

Record type: Abstract

ISSN: 0174-5522

**ABSTRACT:**

Die Internet-Programmsprache Java zeichnet sich durch verteilten Aufbau, Objektorientierung und die Definitionsmoeglichkeit fuer Netzschnittstellen aus. Fuer Geraeteanwendungen in Netzwerkumgebungen wird ein Mikroprozessor 'picoJava' vorgestellt, bei dem wesentliche Befehlsmengen der Java-Programmsprache implementiert sind. Die Befehle des Java-Befehlssatzes werden direkt ausgefuehrt. Weiterhin ist die Struktur kompatibel zu den Spezifikationen der Java **Virtual Machine**. Die Befehlslaenge konnte auf durchschnittlich unter 2 Byte vermindert werden. Ueber eine RISC-Pipeline werden **Cache**-Speicher variabler Groesse benutzt. Die Stapelverarbeitung (Hardware-Stack) im Prozessor benutzt 'method calls'. Zur Vermeidung von Speicherueberlaeufen wird mit Zugriffsbegrenzungen, Faltoperationen und mit der Datenauslagerung ueber zirkulare Puffer (dribbling) gearbeitet. Der Prozessor ist fuer den Netzwerkeinsatz und kostenguenstige Endanwendungen vorgesehen.

**DESCRIPTORS:** PROGRAMMING LANGUAGES; MICROPROGRAMMING; MICROPROCESSORS; PIPELINE PROCESSING; **TRANSACTION** PROCESSING; SEMICONDUCTOR **MEMORY**; **BUFFER** **STORAGE**; COMPUTER INTERFACES; **VIRTUAL MACHINES**; COMMAND STRUCTURE; CONVOLUTIONAL CODE; JAVA--PROGRAMMING LANGUAGE  
**IDENTIFIERS:** Programmiersprache; Java; Mikroprozessor

23/5/52 (Item 2 from file: 95)  
DIALOG(R)File 95:TEME-Technology & Management  
(c) 2004 FIZ TECHNIK. All rts. reserv.

00991898 I96056403352

**Performance of work-optimal PRAM simulation algorithms on coated meshes**  
(Leistungsfähigkeit von belastungsoptimalen PRAM-Simulationsalgorithmen  
auf Maschennetzen)

Leppanen, V  
Dept. of Comput. Sci., Turku Univ., Finland  
Computer Journal, London, v38, n10, pp801-810, 1995  
Document type: journal article Language: English  
Record type: Abstract  
ISSN: 0010-4620

ABSTRACT:

We study the effect of varying the multithreading level of processors in work optimal PRAM simulation algorithms on coated meshes. A coated mesh consists of a mesh connected routing machinery and P processor & **memory** pairs that form a coat on the routing machinery. The algorithms studied are based on greedy routing, sorting, improved virtual leveled network technique, combining queues method, and synchronization wave. Our results show that increasing the multithreading level considerably improves the simulation cost. The cost can be decreased below 5 routing steps per P simulated PRAM processors. In case of one algorithm, even costs 1.1...2 are achieved.

DESCRIPTORS: PARALLEL PROCESSORS; **TRANSACTION** PROCESSING; JOB MANAGEMENT; DIRECT ACCESS MEMORIES; ALGORITHM; MESH NETWORKS; PARALLEL ALGORITHMS; SELECTION--SORTING; **VIRTUAL MACHINES** ; COMPUTERIZED SIMULATION; PARALLEL PROCESSING; SEMICONDUCTOR **MEMORY** ; PERFORMANCE ANALYSIS; PERFORMANCE EVALUATION; COMPUTATIONAL COMPLEXITY; PARALLEL ARCHITECTURES  
IDENTIFIERS: WORK OPTIMAL PRAM SIMULATION ALGORITHMS; COATED MESHES; MULTITHREADING LEVEL; MESH CONNECTED ROUTING MACHINERY; GREEDY ROUTING; VIRTUAL LEVELED NETWORK TECHNIQUE; COMBINING QUEUES METHOD; SYNCHRONIZATION WAVE; SIMULATION COST; ROUTING STEPS; SIMULATED PRAM PROCESSORS;  
Parallelprozessor; Simulationsalgorithmus; Leistungsanalyse

23/5/53 (Item 3 from file: 95)  
DIALOG(R)File 95:TEME-Technology & Management  
(c) 2004 FIZ TECHNIK. All rts. reserv.

00954534 E96011338352

**Adaptive wormhole routing in k-ary n-cubes**  
(Adaptive Wurmloch-Belegung in k-fachen n-Cubes)

Yang, CS; Tsai, YM; Chi, SL; Shi, SSB  
Nat. Sun Yat-Sen Univ., Kaohsiung, RC  
Parallel Computing, v21, n12, pp1925-1943, 1995  
Document type: journal article Language: English  
Record type: Abstract  
ISSN: 0167-8191

ABSTRACT:

Distributed **memory** multiprocessor (DMMP) systems have gained much attention because their performance can be easily scaled up by increasing the number of processor-**memory** modules. The k-ary n-cube is the most popular interconnection network topology currently used in DMMPs. Wormhole routing is one of the most promising switching technologies and has been used in many new generation multicomputers. Wormhole routing makes the communication latency insensitive to the network diameter and reduces the size of the channel **buffer** of each router. The concept of virtual channels and virtual networks are widely invented for deadlock-free design. A fully adaptive wormhole routing method for k-ary n-cubes has been proposed by Linder in 1991. Unfortunately, the need of  $2(\exp(n-1))$  virtual

networks makes it unreasonable. This paper proposes a virtual network system to support an adaptive, minimal and deadlock free routing in k-ary n-cubes. It uses only four virtual networks but can get a higher degree of adaptability and higher traffic capacity. Simulation results are presented to verify the performance.

DESCRIPTORS: MULTIPROCESSING SYSTEMS; **MEMORY** MANAGEMENT; DISTRIBUTED COMPUTING; DISTRIBUTED PARAMETER SYSTEMS; DEADLOCK; **TRANSACTION** PROCESSING; JOB MANAGEMENT; VIRTUAL **MEMORY** ; PARALLEL PROCESSING; PARALLEL PROCESSORS; **VIRTUAL MACHINES** ; SYSTEM OPTIMIZATION; ALGORITHM; COMPUTERIZED SIMULATION; PERFORMANCE ANALYSIS; DATA COMMUNICATION  
IDENTIFIERS: VERTEILTER SPEICHER; verteilter Speicher; Wurmloch-Routing; virtuelles Netzwerk

23/5/54 (Item 4 from file: 95)  
DIALOG(R)File 95:TEME-Technology & Management  
(c) 2004 FIZ TECHNIK. All rts. reserv.

00869876 E95034492080

**Using subpages for coherency control in parallel database systems**  
(Einsatz von Teilseiten fuer die Kohaerenzsteuerung in parallelen Datenbanksystemen)

Listl, A

TU Muenchen, D

PARLE 94, Parallel Architectures and Languages Europe, 6th Int. PARLE Conf., Proc., Athens, GR, Jul 4-8, 1994/1994

Document type: Conference paper Language: English

Record type: Abstract

ISBN: 3-540-58184-7; 0-387-58184-7

ABSTRACT:

Implementing databases on distributed **memory** multicomputers raises the problem, how to implement a database **cache** which uses shared **memory** concepts extensively under such a hardware architecture. In this paper the authors describe a solution to this problem by introducing a virtual database **cache** (VDBC). The VDBC is an algorithmic approach based on the lazy release consistency model and on the **transaction** concept. Additionally, the VDBC uses pages subdivided into equal sized subpages to maintain concurrency and **cache** coherency and to reduce data contention on often accessed pages. This approach is based on the assumption, that interprocessor communication is quite favorable as compared to I/O.

DESCRIPTORS: PARALLEL PROCESSING; MASSIVELY PARALLEL MACHINES; COMPUTER ARCHITECTURE; **CACHE** MEMORIES; **VIRTUAL MACHINES** ; RELATIONAL DATABASES; VIRTUAL **MEMORY** ; DATABASE MANAGEMENT SYSTEM  
IDENTIFIERS: SPEICHER KOHAERENZ; PARALLELE DATENBANK; VIRTUELLER DATENBANK **CACHE** ; Kohaerenzkontrolle; paralleles Datenbanksystem

23/5/55 (Item 5 from file: 95)  
DIALOG(R)File 95:TEME-Technology & Management  
(c) 2004 FIZ TECHNIK. All rts. reserv.

00810739 I94099457259

**Titel japanisch**

(Hochgeschwindigkeitsfunktion bei Stapelverarbeitung durch Virtualisierung von Ein/Ausgabe und Parallelverarbeitung: PREST)

(High speed function of batch processing by virtualizing input/output and parallel execution: PREST)

Nagasuka, H; Yoshizawa, Y; Arai, T; Imai, K

Syst. Dev. Lab., Hitachi Ltd., Japan

Transactions of the Information Processing Society of Japan, v35, n5, pp856-864, 1994

Document type: journal article Language: Japanese

Record type: Abstract

ISSN: 0387-5806

ABSTRACT:

In on-line **transaction** processing (OLTP), batch jobs are periodically executed to sum up data and update DBs. The batch jobs are executed after on-line **transaction** processing is completed or while the system load for **transactions** is low. As the demand for non-stop on-line **transactions** increases, the performance of batch jobs needs to be improved. The authors present a new high-speed batch processing facility, the parallel reference and synchronous transfer facility (PREST). Batch job processing in OLTP is usually realized by passing data through a file from a job to a successive one. To reduce I/O operations for the data passing, PREST changes the I/O operations with main **storage** access. PREST also allows the batch jobs to be executed in parallel by scheduling a successive job when a job outputs a record of data to the successive one. Since PREST intercepts I/O operations, application programs for batch jobs can take advantage of the benefits of PREST without modification. With PREST, the performance of batch job processing is significantly improved; CPU overheads for the I/O operation are reduced to 1/6 and the execution time of a typical batch job is reduced by 1/2.

DESCRIPTORS: DATABASE MANAGEMENT SYSTEM; ON LINE PROCESSING; **TRANSACTION** PROCESSING; FILE--DATAS; BATCH PROCESSING; **VIRTUAL MACHINES** ; PARALLEL PROCESSING; INPUT OUTPUT; SYNCHRONIZATION; APPLICATION SOFTWARE; DATA COMMUNICATION

IDENTIFIERS: APPLICATION PROGRAMS; EXECUTION TIME; BATCH PROCESSING--(COMPUTERS); PREST; PARALLEL EXECUTION; ON LINE **TRANSACTION** PROCESSING; NONSTOP ON LINE **TRANSACTIONS** ; HIGH SPEED BATCH PROCESSING FACILITY; PARALLEL REFERENCE AND SYNCHRONOUS TRANSFER FACILITY; DATA PASSING; **STORAGE** ACCESS; CPU OVERHEAD; Stapelverarbeitung; Transaktionsverarbeitung

23/5/56 (Item 6 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

(c) 2004 FIZ TECHNIK. All rts. reserv.

00703445 E93070189223

**I/O subsystem configurations for ESA: New roles for processor storage**  
(Konfigurationen von Ein/Ausgabe-Subsystemen fuer ESA: Die neuen Rollen der Prozessorspeicher)

McNutt, B

IBM ADSTAR, San Jose, USA

IBM Systems Journal, v32, n2, pp252-264, 1993

Document type: journal article Language: English

Record type: Abstract

ISSN: 0018-8670

ABSTRACT:

Die Konfigurationen der Ein/Ausgabesubsysteme werden vom Speicher und den Ein/Ausgabeanforderungen der spezifischen Anwendungen bestimmt, die die Magnetplatte als Hardware verwenden. Wird dies vorausgesetzt, so ist die Kanalschnittstelle die Beschraenkung von Enterprise Systems Architecture (ESA). Diese Architektur erlaubt die Verwaltung des Hardwareaufwandes von Ein/Ausgabesubsystemes, wobei gleichzeitig die Transaktionsantwortzeit und der Systemdurchsatz ueber eine Strategie von Prozessorpufferung gekoppelt mit **Cache** -Speichersteuerung verbessert wird. Der Schluessel ist die Steuerung der Aggregierzeit pro Transaktion, die diese auf die physische Plattenbewegung wartet. Eine Fallstudie, basierend auf der Untersuchung einer grossen MVS-Installation, analysiert die Mechanismen des Zugriffs auf beide Speichertypen: Daraus werden Richtlinien fuer den bestmoeglichen Einsatz des gesamten Speicherbudgets entwickelt. Diese Richtlinien tendieren dazu, der bisher ueblichen **Cache** -Speichersteuerung zu widersprechen.

DESCRIPTORS: **CACHE** MEMORIES; **MEMORY** MANAGEMENT; DATA **STORAGE** ; I O UNIT; DISK MEMORIES--MAGNETIC DISKS; PROCESSORS; CHANNEL CAPACITY; **TRANSACTION** PROCESSING; DATA THROUGHPUT; SYSTEM ARCHITECTURE; **BUFFER** **STORAGE** ; CASE STUDIES; **VIRTUAL MACHINES** ; CODE OF PRACTICE; FILE

MANAGEMENT; LARGE SCALE MODEL; STRATEGIES; DELAY--WAITING TIME; ACCESS TIME  
IDENTIFIERS: EIN/AUSGABESUBSYSTEM; AGGREGIERZEIT; Systemarchitektur;  
Ein-Ausgabe; Speicherung



Set	Items	Description
S1	14603	VIRTUAL()MACHINE? OR JAVA (3N) (INTERPRETER? OR EVALUATOR? - OR SHELL? OR TRANSLATOR? OR CONVERT? OR ENVIRONMENT OR (RUN()- TIME OR RUNTIME) ()ENGINE?) OR COMMON()INTERMEDIATE()LANGUAGE? OR MSIL OR VMWARE OR PYTHON
S2	948850	HEAP OR TEMPORARY()STORAGE OR GARBAGE()COLLECTION OR STORA- GE OR BUFFER? OR CACHE? OR MEMORY OR REPOSITORY? OR UMA
S3	6654152	TRANSACTION? OR ACTIVIT? OR EXECUTION? OR MESSAGE? OR DATA OR INFORMATION OR PACKET? OR (E OR ELECTRONIC) ()MAIL OR EMAIL OR TEXT
S4	5997	ATOMIC (2N) S3
S5	3	VIRTUAL()HEAP
S6	0	STORE()HEAP
S7	4	MEMORY()HEAP
S8	1765	S1 AND S2 AND S3
S9	68	S1 AND S2 AND TRANSACTION?
S10	2	S1 AND S2 AND S4
S11	0	S1 AND S2 AND S5
S12	0	S1 AND S2 AND S7
S13	0	S9 AND S4
S14	10	S1 AND S4
S15	0	S1 AND S5
S16	0	S1 AND S7
S17	2	S8 AND S4
S18	0	S8 AND S5
S19	0	S8 AND S7
S20	85	S5 OR S7 OR S9 OR S10 OR S14 OR S17
S21	67	S20 NOT PY>2000
S22	67	S21 NOT PD>20000602
S23	56	RD (unique items)
S24	53	S1 AND HEAP AND S3
S25	0	S1 AND HEAP AND S4
S26	0	S1 AND HEAP AND TRANSACTION?
S27	0	S1 AND HEAP? AND TRANSACTION?
File	8: Ei	Compendex(R) 1970-2004/Jun W2 (c) 2004 Elsevier Eng. Info. Inc.
File	35:	Dissertation Abs Online 1861-2004/May (c) 2004 ProQuest Info&Learning
File	202:	Info. Sci. & Tech. Abs. 1966-2004/May 14 (c) 2004 EBSCO Publishing
File	65:	Inside Conferences 1993-2004/Jun W3 (c) 2004 BLDSC all rts. reserv.
File	2:	INSPEC 1969-2004/Jun W2 (c) 2004 Institution of Electrical Engineers
File	233:	Internet & Personal Comp. Abs. 1981-2003/Sep (c) 2003 EBSCO Pub.
File	94:	JICST-EPlus 1985-2004/May W5 (c) 2004 Japan Science and Tech Corp(JST)
File	99:	Wilson Appl. Sci & Tech Abs 1983-2004/May (c) 2004 The HW Wilson Co.
File	95:	TEME-Technology & Management 1989-2004/Jun W1 (c) 2004 FIZ TECHNIK
File	583:	Gale Group Globalbase(TM) 1986-2002/Dec 13 (c) 2002 The Gale Group

Set	Items	Description
S1	38073	VIRTUAL()MACHINE? OR JAVA (3N) (INTERPRETER? OR EVALUATOR? - OR SHELL? OR TRANSLATOR? OR CONVERT? OR ENVIRONMENT OR (RUN()- TIME OR RUNTIME) ()ENGINE?) OR COMMON()INTERMEDIATE()LANGUAGE? OR MSIL OR VMWARE OR PYTHON
S2	1619649	HEAP OR TEMPORARY()STORAGE OR GARBAGE()COLLECTION OR STORA- GE OR BUFFER? OR CACHE? OR MEMORY OR REPOSITORY? OR UMA
S3	15233736	TRANSACTION? OR ACTIVIT? OR EXECUTION? OR MESSAGE? OR DATA OR INFORMATION OR PACKET? OR (E OR ELECTRONIC) ()MAIL OR EMAIL OR TEXT
S4	1216	ATOMIC (2N) S3
S5	3	VIRTUAL()HEAP
S6	5	STORE()HEAP
S7	61	MEMORY()HEAP
S8	1558	S1 (S) S2 (S) S3
S9	0	S1 (S) S2 (S) S4
S10	283	S1 (5N) S2 (5N) S3
S11	1	S1 (S) S4
S12	0	S1 (S) S5
S13	0	S1 (S) S6
S14	0	S1 (S) S7
S15	670	S1 (3N) S2
S16	227	S15 (S) S3
S17	0	VIRTUAL()MACHINE? (S) HEAP (S) TRANSACTION?
S18	177	S16 NOT PY>2000
S19	165	S18 NOT PD>20000602
S20	119	RD (unique items)
File	15:ABI/Inform(R)	1971-2004/Jun 24 (c) 2004 ProQuest Info&Learning
File	810:Business Wire	1986-1999/Feb 28 (c) 1999 Business Wire
File	647:CMP Computer Fulltext	1988-2004/Jun W2 (c) 2004 CMP Media, LLC
File	275:Gale Group Computer DB(TM)	1983-2004/Jun 25 (c) 2004 The Gale Group
File	674:Computer News Fulltext	1989-2004/Jun W2 (c) 2004 IDG Communications
File	696:DIALOG Telecom. Newsletters	1995-2004/Jun 24 (c) 2004 The Dialog Corp.
File	621:Gale Group New Prod. Annou. (R)	1985-2004/Jun 25 (c) 2004 The Gale Group
File	636:Gale Group Newsletter DB(TM)	1987-2004/Jun 24 (c) 2004 The Gale Group
File	813:PR Newswire	1987-1999/Apr 30 (c) 1999 PR Newswire Association Inc
File	613:PR Newswire	1999-2004/Jun 25 (c) 2004 PR Newswire Association Inc
File	16:Gale Group PROMT(R)	1990-2004/Jun 25 (c) 2004 The Gale Group
File	160:Gale Group PROMT(R)	1972-1989 (c) 1999 The Gale Group
File	553:Wilson Bus. Abs. FullText	1982-2004/Jun (c) 2004 The HW Wilson Co

11/5,K/1 (Item 1 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2004 ProQuest Info&Learning. All rts. reserv.

01643050 02-94039

\*\*USE FORMAT 9 FOR FULL TEXT\*\*

**Adding real-time capabilities to Java**

Nilsen, Kelvin

Communications of the ACM v41n6 PP: 49-56 Jun 1998 ISSN: 0001-0782

JRNL CODE: ACM

DOC TYPE: Journal article LANGUAGE: English LENGTH: 8 Pages

SPECIAL FEATURE: Equations References

WORD COUNT: 5350

ABSTRACT: Computer programs that must execute within particular time constraints are said to be real-time programs or applications. Current Java implementations do not provide the mechanisms required for reliable execution of real-time applications. Minor additions to the standard Java libraries and small extensions to the language itself make possible the cost-effective implementation of real-time systems using a variant of the Java language. The capabilities to be offered to real-time developers by a real-time variant of Java represent significant improvements over the current state of the practice.

GEOGRAPHIC NAMES: US

DESCRIPTORS: Real time ; Java; Problems

CLASSIFICATION CODES: 5240 (CN=Software & systems); 9190 (CN=United States)

...TEXT: use of synchronized code segments, for which blocking times are difficult to analyze in the highly dynamic **Java** execution **environment**, PERC provides an additional synchronization mechanism known as an atomic statement. The body of an atomic statement...

... implementation of PERC might verify that sufficient CPU time remains in the current time slice to complete **execution** of the **atomic** statement before allowing control to enter into the atomic statement's body. Without this check, the inability...

20/3,K/4 (Item 4 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2004 ProQuest Info&Learning. All rts. reserv.

00726994 93-76215

**Evolution of an Open Communications Architecture**

Cypser, Rudolph J.

IBM Systems Journal v31n2 PP: 161-188 1992

ISSN: 0018-8670 JRNL CODE: ISY

WORD COUNT: 8772

...TEXT: process SAA systems (i.e., Operating System/2\* (OS/2\*), Operating System/400\*, (OS/400\*), Multiple Virtual **Storage** (MVS), and **virtual machine** (VM) systems) and AIX\*/OSF (Advanced Interactive Executive\*/Open Software Foundation) systems(8) are primarily involved, but...

... Third, there are common transmission facilities that can service either the OSI or SNA end-to-end **data** -exchange facilities. All of the OSI link subnetwork-access facilities can be common. Subnetworks, like X.25 circuit switched networks, X.25 **packet** switched **data** networks (PSDNs), synchronous **data** link control (SDLC) wide area networks, multiple LANs, frame relay, and BISDN, would be available to all...

20/3,K/6 (Item 6 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2004 ProQuest Info&Learning. All rts. reserv.

00621471 92-36573

**Estimating the Fault Rate Function**

Jennings, Thad

IBM Systems Journal v31n2 PP: 300-312 1992

ISSN: 0018-8670 JRNL CODE: ISY

WORD COUNT: 6318

...TEXT: IBM's Raleigh, North Carolina, Networking Laboratory.

**BACKGROUND**

On most operating systems (including IBM's Multiple Virtual **Storage** (MVS), **virtual machine** (VM), and Virtual **Storage** Extended (VSE)), processor storage is divided into fixed-size pieces called frames. The operating systems allow multiple...

... virtual machines, or partitions) to run concurrently. Each program has virtual storage that contains its modules and **data** areas, and the operating system divides each program's virtual storage into fixed-size pieces called pages...

20/3,K/7 (Item 7 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2004 ProQuest Info&Learning. All rts. reserv.

00621470 92-36572

**Managing Session Performance Using the NetView Performance Monitor**

Temoshenko, Leo

IBM Systems Journal v31n2 PP: 286-299 1992

ISSN: 0018-8670 JRNL CODE: ISY

WORD COUNT: 5823

ABSTRACT: IBM's NetView Performance Monitor (NPM) is a network management product designed to provide the essential **information** needed to manage network and session performance. NPM, which runs as a Virtual Telecommunications Access Method (VTAM) application in the Multiple Virtual **Storage** (MVS) and **virtual machine** operating system environments, has

the ability to measure the performance of standard Systems Network Architecture (SNA) logical...

...type 0, 2, and 6.2 sessions between a host application and a terminal in terms of **transaction** counts, transit times, and volume measurements. NPM provides a function that permits the dynamic addition, replacement, and...  
...TEXT: and session performance. NPM runs as a Virtual Telecommunications Access Method (VTAM\*) application in the Multiple Virtual **Storage** (MVS) and **virtual machine** (VM) operating system environments. It gathers performance **information** from real-time and historical sources. Once gathered, NPM provides analysis through on-line panels, a graphic...

20/3,K/12 (Item 12 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2004 ProQuest Info&Learning. All rts. reserv.

00085873 79-00761

**Capability Managers**

Kieburtz, Richard B.; Silberschatz, Abraham

IEEE Transactions on Software Engineering vSE-4n6 PP: 467-477 Nov. 1978

JRNL CODE: ISO

ABSTRACT: The use of a language-based mechanism to synchronize the processes that access a shared **data** base, to encapsulate abstract resource types, and to provide more flexible, dynamic access control has several advantages. **Data** -independent restrictions can be stated declaratively and their enforcement can be guaranteed by a compiler. Integrity of a shared **data** segment through the use of a programming language is based on 2 assumptions. **Execution** of compiled code will be on a **virtual machine** that has protected **storage** segments to assure that the contents cannot be modified by unauthorized **activity**. Each program request to alter storage segments must have been validated by a language processor to assure...

...An access right is the right of a program component to access resources. A capability allows additional **data** to be used to govern access control. Rights are included in capabilities to recognize the different processes...

20/3,K/31 (Item 2 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

02290600 SUPPLIER NUMBER: 54467026 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**OO Alternatives for S/390. (Technology Information)**

Cathcart, Mark

Enterprise Systems Journal, 14, 4, 34(1)

April, 1999

ISSN: 1053-6566

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 2506 LINE COUNT: 00211

... spent writing, testing and debugging problems associated with the incorrect management of memory and pointers to that **memory**.

The **execution environment** for Java programs is called the Java Virtual Machine or JVM. The JVM has its own format for programs and its own computer instruction set. Programs are compiled from Java source code into the JVM program **execution** format, called Java bytecode. As bytecode contains only instructions to the JVM and not to the real...

20/3,K/33 (Item 4 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

02255970 SUPPLIER NUMBER: 53467057 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**INSIGNIA FILES FOR PATENTS FOR ITS EMBEDDED JAVA.**

Computergram International, NA

Dec 23, 1998

ISSN: 0268-716X

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 214

LINE COUNT: 00020

TEXT:

...Californian base in Fremont, says the patent filings relate both to Jene and to its EVM Embedded **Virtual Machine**. Jene includes concurrent **garbage collection** and adaptive optimizing dynamic compilation technology that, says Insignia, gives it a small memory footprint, fast **execution** and predictable behavior. Others, including Hewlett-Packard Co and Sun Microsystems Inc, either have or are working...

20/3,K/36 (Item 7 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

02022554 SUPPLIER NUMBER: 19006545 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Next step for intranets: widespread deployment; emergence of standards, development tools, security systems holds key for IT migration.**

(Internet/Web/Online Service Information)

Moeller, Michael; Baron, Talila; Kerstetter, Jim; Rooney, Paula

PC Week, v14, n1, p33(2)

Jan 6, 1997

ISSN: 0740-1604

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 959

LINE COUNT: 00080

...ABSTRACT: database access and new security models to sign Java applets, and Java 2.0 will use a **virtual machine** providing improved **garbage collection**, synchronization, locking and exception handling. Forrester Research estimates that 60 percent of all Internet applications will be...

...facilities and non-portable file names. Microsoft is developing a set of APIs for pushed, or subscribed, **information** to connect directly to Windows and Internet Explorer 4.0.

20/3,K/37 (Item 8 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

02019885 SUPPLIER NUMBER: 18937758 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Inside the Java Virtual Machine. (Technology Tutorial)(Tutorial)**

Lindholm, Tim; Yellin, Frank

UNIX Review, v15, n1, p31(7)

Jan, 1997

DOCUMENT TYPE: Tutorial

ISSN: 0742-3136

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 4167

LINE COUNT: 00323

... flag. The Javastack size limit can be used to limit memory consumption or to catch runaway recursions.

**Heap**

The Java **Virtual Machine** has a **heap** that is shared among all threads. The heap is the run-time **data** area from which memory for all

20/3,K/38 (Item 9 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

02007599 SUPPLIER NUMBER: 18807046 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Sun reveals first Java processor core. (Sun Microsystems PicoJava) (Product Development)**

Turley, Jim

Microprocessor Report, v10, n14, p28(4)

Oct 28, 1996

ISSN: 0899-9341

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 2738

LINE COUNT: 00218

... load-use penalty.

On-Chip Stack Keeps Java Core Moving

From the programmer's perspective, the Java **virtual machine** stack resides in **memory**. For performance, part of that stack is kept on-chip in PicoJava's stack cache. The stack...

...would cause the bottom entry to be flushed out to memory or--more likely--an on-chip **data** cache. Likewise, when the last item is popped, the stack cache would refill from memory (via the **data** cache, if present).

In practice, PicoJava applies some hysteresis to its fill and flush logic. When the...

20/3,K/45 (Item 16 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

01848557 SUPPLIER NUMBER: 17588283 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Heal the system. (Windows 95 network monitoring tips) (includes related article on monitoring client workstations) (Tutorial)

Kane, Bob

Windows Sources, v3, n11, p345(1)

Nov, 1995

DOCUMENT TYPE: Tutorial ISSN: 1065-9641

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 2434 LINE COUNT: 00203

... System Monitor lets you track most major parts of the operating system, including CPU usage, threads, and **virtual machines**; **memory**, including both physical memory (RAM) and virtual memory (the swapfile); and the File System, which covers all file I/O beyond the swapfile. You can track these **activities** on both standalone machines and networked clients--which has powerful implications.

Less Legwork

How many times have...

20/3,K/65 (Item 36 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

01256144 SUPPLIER NUMBER: 06613770 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Software development. (Tech Releases) (product announcement)

PC Tech Journal, v6, n9, p40(2)

Sept, 1988

DOCUMENT TYPE: product announcement

ISSN: 0738-0194

LANGUAGE:

ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 724 LINE COUNT: 00059

TEXT:

...available from Black & White International Inc. FaceIt allows programmers to create pull-down and Lotus-style menus, **data** -entry tables, and pop-up and context-sensitive help windows from existing .DBF and ASCII files, without the need to specify coordinates, draw a window, and type in **text**. Capabilities include automatic multiple-column menus, built-in scrolling, screen-placement, and design of interfaces from DOS...

...menu that allows the user to single-step, browse the macro, and edit the macro instructions during **execution**. Breakpoints can be encoded in source to suspend macro **execution**. The editor has a context-sensitive cursor, support for any size screen, and a feature that allows...

...uses the virtual-machine capabilities of the 386 to run CodeView and

program symbols in a separate **virtual machine** in extended **memory** .  
MagicCV can coexist with Nu-Mega's Soft-ICE, a debugger that provides  
realtime break-point capabilities...

20/3,K/74 (Item 4 from file: 621)  
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)  
(c) 2004 The Gale Group. All rts. reserv.

01591851 Supplier Number: 48170093 (USE FORMAT 7 FOR FULLTEXT)  
**Gemstone Systems Announces Support for Sun Microsystems' Specification of  
Enterprise JavaBeans.**  
Business Wire, p12100114  
Dec 10, 1997  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 752

... after they are deployed, reducing the overall cost of system  
maintenance.

GemStone/J's server-optimized Java **Virtual Machine** shared **memory**  
-- using a shared memory architecture proven by **transaction** monitor  
vendors -- will allow for scalable object sharing, and flexible resource  
management and pooling services. GemStone's...

20/3,K/79 (Item 5 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

03323501 Supplier Number: 46832035 (USE FORMAT 7 FOR FULLTEXT)  
**Sun Reveals First Java Processor Core**  
Microprocessor Report, v10, n14, pN/A  
Oct 28, 1996  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Refereed; Trade  
Word Count: 2572

... load-use penalty.

On-Chip Stack Keeps Java Core Moving  
From the programmer's perspective, the Java **virtual machine** stack  
resides in **memory** . For performance, part of that stack is kept on-chip in  
PicoJava's stack cache. The stack...

...would cause the bottom entry to be flushed out to memory or--more  
likely--an on-chip **data** cache. Likewise, when the last item is popped,  
the stack cache would refill from memory (via the **data** cache, if  
present).

In practice, PicoJava applies some hysteresis to its fill and flush  
logic. When the...

20/3,K/100 (Item 3 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

06765810 Supplier Number: 56912081 (USE FORMAT 7 FOR FULLTEXT)  
**Java group reveals its realtime rival.**  
Electronics Times, p14  
Oct 4, 1999  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 340

... the realtime tasks will be able to store local variables on the  
stack in place of the **heap** . Conventional Java **virtual machines** only  
allow working **data** to be held on the stack.